



Molecular Modelling and Materials Informatics — Technology Landscape and Competitor Benchmarking

Case Study

Client	An integrated oil and gas player
Industry	Oil and gas
Products	MM and MI techniques

Context

- The client wanted to understand the progress that is being made in the areas of Molecular Modelling (MM) and emerging Materials Informatics (MI).

Key Business Questions

- What are the advances made in the areas of MM and MI?
- What factors are responsible for the development of concepts, such as HPC?
- What are the key initiatives and platforms available for the growth of MM and MI?

Engagement Scope

1 Technological Evolution, Growth, and Application Areas

- Analyzed scientific literature & patents of technologies under research scope
- Identified application areas by referring to scientific literature and analyzing patents
- Near exhaustive scanning of gathered information to identify evolution trend, i.e., change in techniques with advancements in enabling technologies

2 Competitors Benchmarking

- Identified activities of various oil and gas players through literature and patent analysis, collaboration news, joint industry, and academic projects
- Identified in-house capabilities according to parameters, such as human resource, software, focus areas, investments, etc., and ranked key players accordingly

3 Success Stories and Player Profile

- Identified successful implementation of MM and MI techniques for both academia and industrial players across various domains
- Analyzed implementation success based on reduction in investment cost and hours utilized
- Profiled tool providers and R&D initiatives; identified their respective MI platforms and databases

4 Key Findings and Conclusions

- Players profile highlighted information regarding the entry of new players so as to understand the level of activity (emerging or saturated) in MM and MI
- Provided input on the penetration level of MM and MI techniques in different application areas; this information is useful to highlight early adopters and their level of activity, gaps, key drivers, challenges, and future scope of the market

Research Methodology

Secondary Research

- Conducted desk research to understand the MM and MI techniques, and identify relevant projects and players involved from CORDIS (EUROPE), OTIS (US), etc.
- Referred to scientific literature and patent research through in-house paid sources (Web of Science, Thomson Innovation, etc.)

Benefits to Client

- The study highlighted progress and evolution trend, through a methodical approach, which can possibly be an opportunity for the client in terms of understanding the change in dynamics of MM and MI techniques and their adoption over the past 20 years.
- It also helped the client identify R&D initiatives across the globe to understand the efforts of government and scientific community.

Sample Analysis

1 Technological Evolution, Growth, and Application Areas

2 Competitors Benchmarking

3 Success Stories and Player Profile

4 Key Findings and Conclusions

Thank you

North America

55 Madison Ave, Suite 400
Morristown, NJ 07960
USA
T: +1 212 835 1590

Europe

328-334 Graadt van Roggenweg
4th Floor, Utrecht, 3531 AH
Netherlands
T: +31 30 298 2108

United Kingdom

5 Chancery Lane
London EC4A 1BL
United Kingdom
T: +44 207 406 7548

Asia Pacific

Millennium Business Park
Sector 3, Building # 4, Mahape
Navi Mumbai 400 710
India
T: +91 22 6772 5700