

Case Study: LumOptica



Proof of Market Study

LumOptica wanted to quantify the market for its fibre optic component heater invention as part of an Innovate UK funded Proof of Market project.

The company's innovative technology has no spark hazard, creates no electromagnetic interference and is lightweight. However, to fully understand its market potential, LumOptica needed independent information that described the size and nature of the opportunity.

To provide this market intelligence, Milner constructed a global forecast model. The model showed the volume and value of the current electric component heater market and the introduction of fibre optic technology over a 10-year forecast period, across 4 named countries and 5 sectors. The output from the model will allow LumOptica to plan its long-term strategy and to gain future investment.



About LumOptica

LumOptica is a new UK-based R&D consultancy, bringing decades of experience in the optics, laser and infrared domains. The company assists clients who provide optical-based systems or solutions which could benefit from optical methods.

LumOptica offers:

- Consultancy and training in optical and laser-based systems
- Optical systems design and simulation
- Laboratory facility providing experimental validation through to test and evaluation

Born out of the closure of the research centre of one of the world's largest defence, aerospace and security companies, LumOptica is well-placed to provide authoritative services and world-class expertise in cross-disciplinary sectors.

LumOptica's Requirement

There are no up-to-date industry analyst reports that cover the component heater market. As a result, LumOptica required a market assessment to explain the current component heater market, in sales unit and market value terms for each sector and geography. This needed to provide information about the current and future market dynamics.

The adoption of fibre optic component heaters also needed to be forecast to show the market changes this new technology would bring. This would allow LumOptica to estimate its future sales, revenue and market share in the various geographies and sectors of the market. This market data would help LumOptica to understand sector behaviour, support product development and allow LumOptica to design its technology to meet specific end-user requirements.



Milner's Solution

Sector research

To understand the 5 target sectors, Milner chose 7 separate metrics which scaled the size of each sector and provided information about the underlying market trends. 5 years of historic data was gathered across 4 named countries and the 'Rest of World' region.

Component heater research

Milner worked collaboratively with LumOptica to understand the component heater market. Using historic market sales information, Milner developed its own assumptions to understand the relationship between component heater unit sales and the sector metric and derive a heating element multiplier. 8 multipliers were needed to translate the sector metric data into a component heater market size, by geography, by sector, by year.

Market forecast model

With this historic data in place, Milner could then calculate the installed base, new sales and penetration for both traditional and fibre optic component heaters in the market forecast model. The 5 years of historic data was used as a foundation to forecast the market size over a 10 year period.

Milner applied Diffusion of Innovation theory to forecast how fibre optic technology would roll out across each sector over the next 10 years. This included estimating the total addressable market and the time it would take to reach full penetration. As a result, the adoption rates and annual sales of fibre optic component heaters were calculated.

Each country was analysed to show the breakdown by sector and by technology type (electric and fibre optic heaters). Pricing assumptions were incorporated which meant an overall market value could be calculated. This provided LumOptica with information about its forecast market share of volume and value, which helped it validate its product offering before launch.



LumOptica's Benefits

1. Information unavailable elsewhere

LumOptica had been unable to find an off-the-shelf industry report that met its exact requirements. By commissioning a model from Milner, LumOptica gained granular data on the areas relevant to its product: only the heater types that fibre optic could replace were modelled, and as a nascent technology, fibre optic forecasts were not available elsewhere.

2. Collaborative working

Milner worked closely with LumOptica throughout the model construction, utilising its in-house data and ensuring that it understood how the model worked and the rationale behind assumptions. These assumptions were clearly identified, so LumOptica could conduct sensitivity analysis to investigate how the market would change as inputs were altered.

3. Informing product development

Milner built a 10 year forecast to help LumOptica plan its long-term strategy for the technology. This showed which sectors would be largest and most valuable in the initial years of product launch, and which would provide the best returns on investment. This meant LumOptica could plan its product development to target the most valuable sectors in the market over time.

4. Proof of market potential is critical for investment

Independent evidence of the market opportunity is valued by both external investors and grant funding bodies. The next stage for LumOptica's technology is to go through a Proof of Concept, so the detailed data that Milner provided about the market opportunity (across different countries and sectors) will be important for gaining grant funding.

5. Market analysis specialists

As experts in market analysis, Milner has specialist skills that LumOptica did not have in-house. This meant a model could be constructed quickly using tried and tested techniques to meet LumOptica's requirements.

"After winning an Innovate UK Proof of Market grant, we needed an expert consultancy to carry out the market sizing part of the project. We selected Milner Strategic Marketing to undertake this work because of its independence, market forecasting experience and collaborative approach.

We were really impressed with the work Milner did for us – a very comprehensive market model that forecast the changing dynamics in the market. We were particularly interested to find out the quantified value of the sectors for our invention, which will help us plan which sectors to target in the future and tailor the product to meet their needs.

This project was very useful to us and Milner's work will help us now in moving forward – we can use it to develop our strategy and write follow-on proposals for further funding."

Dr Craig Stacey
CEO and Consultant
LumOptica