



# Diversification

**SAFETY CRITICAL SOLUTIONS**



# Summary

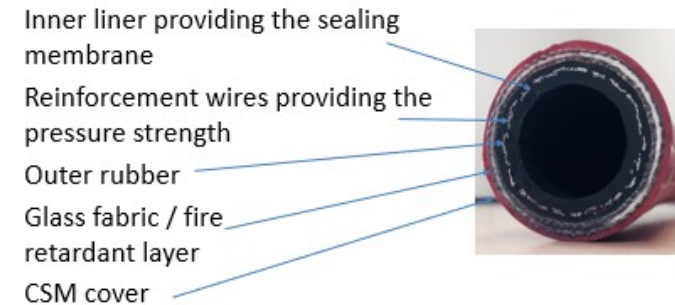
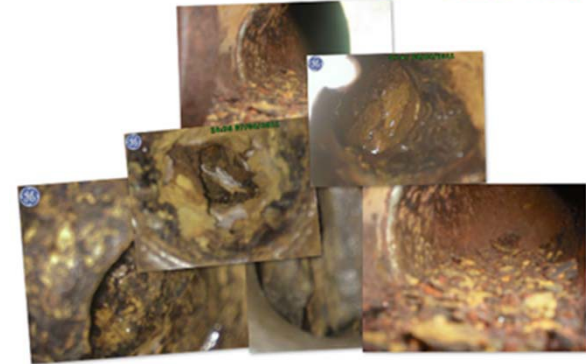


- Aberdeenshire-based Blaze Manufacturing Solutions is a family business, established in 2006, to provide technical safety and loss prevention solutions
- Originally serving the brownfield oil and gas market.
- We covered all aspects from front end definition, concepts, detailed design, supply, installation, commissioning and maintaining of active fire extinguishing systems and fire alarm systems
- We have a major focus on bringing innovative new products to market through our own Research & Development endeavours



# Blaze Flex-Flo™

- Flexible pipe deluge systems were new to Oil & Gas and we led the way with our simplified approach to the engineering process and increased installation speeds when compared with fixed pipe systems.
- The problem was poor material selection from the outset, we needed a solution to maximise economic recovery.
- With no welding or metal cutting beings required, no time consuming hot work precautions as no sparks or fumes are generated
- This allowed us to install in a hazardous area whilst the asset stayed in production
- Flexible piping resists can withstand jet fires with a heat flux of  $390\text{kW/m}^2$ , temperatures above  $1350^\circ\text{C}$ .

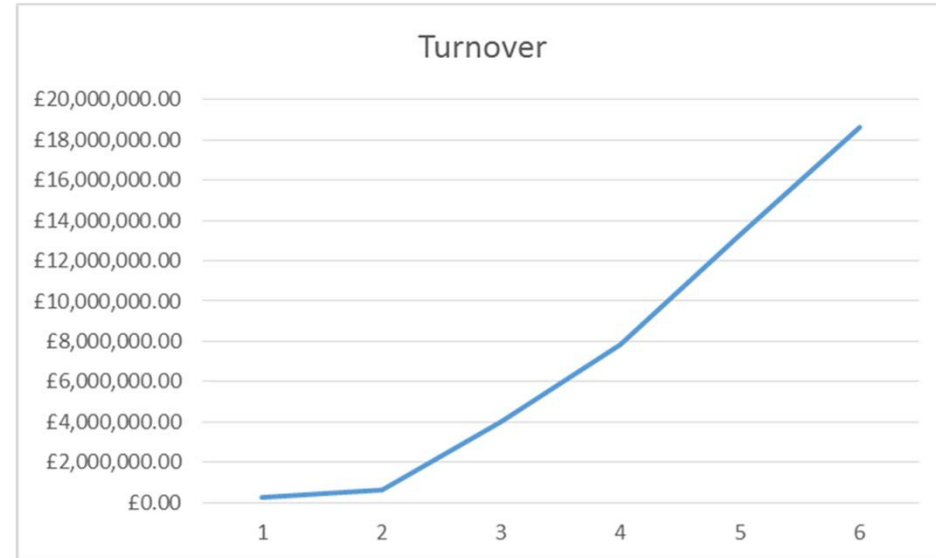




## We had a market & award winning product



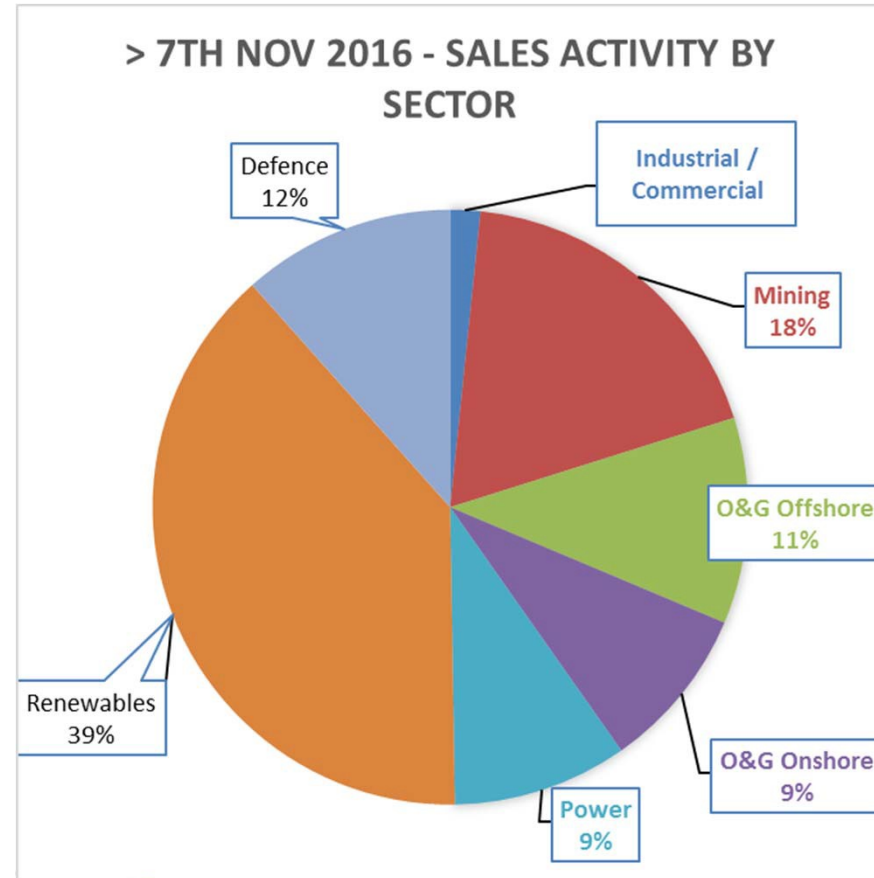
- What could go wrong....
- Exponential growth year on year with a turnover of £18.6 million.
- The following year the industry crashed with the an unprecedented Oil & Gas slump.
- Blaze were fortunate, we had started to diversify already.
- We had recognised the risk that all our work was essentially in our back yard.
- The perceived solution was to Internationalise. With assistance from Scottish enterprise we were still predominantly looking to Oil & Gas but Internationally meanwhile our Business Development team were looking to new markets to see if we could compete



# How have we changed



- Blaze is 13 yrs old, for 9 of these years we existed in the Oil & Gas Market predominantly
- We saw a 65% reduction in turnover and an evaporation of our core business.
- Oil & Gas revenues are now 20% of our overall turnover.
- By diversifying and being commercially astute the business is today back in the black and is growing again.



# Export



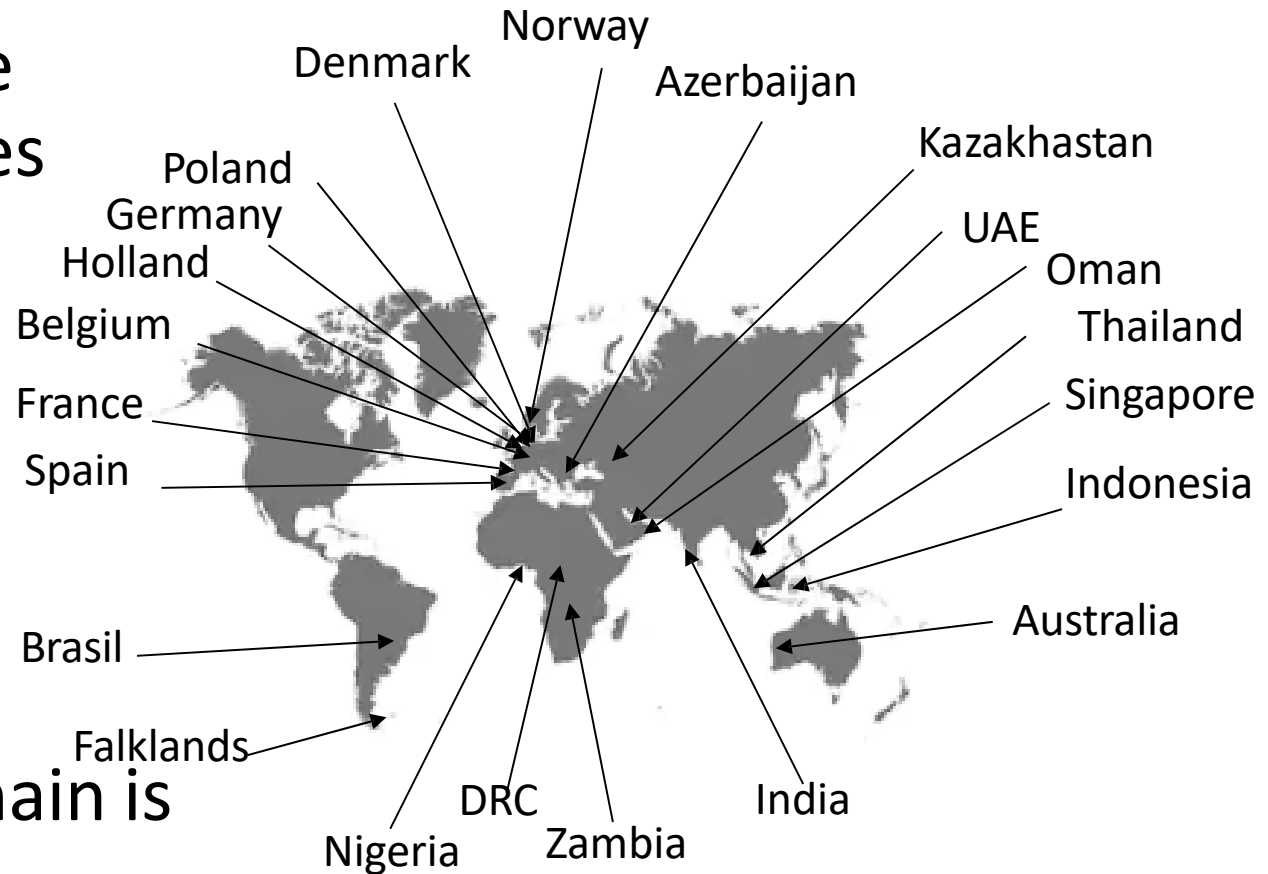
- In recent years over 70% of our project work has been for export.
- In the last few months we have completed the design supply, installation and commissioning of 2 new offshore rectifier stations.
- We have completed the design and supply of Phase 1 of the Mutanda Mine Project in the DRC



# Where are we exporting to



- We are active in 22 countries
- In the last 3 yrs 70% of our volume has been export.
- Our supply chain is also diverse



# Markets



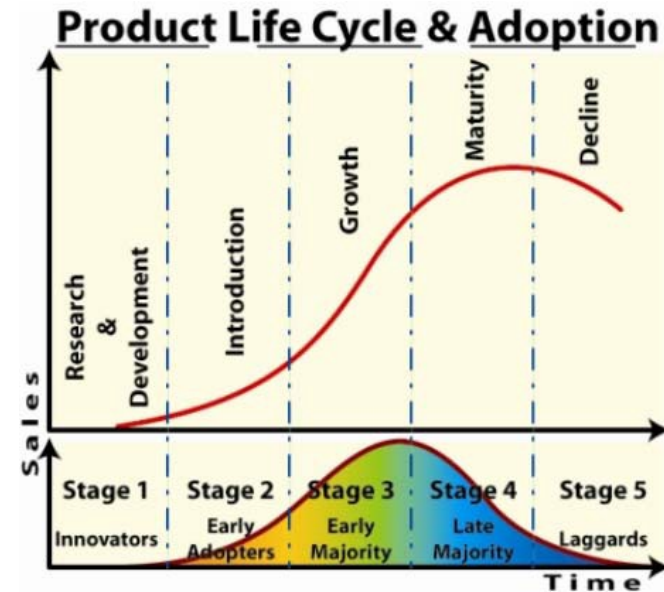
- We recognised that our competitors are essentially global providers, that are conglomerations of multiple businesses *“They want to be leading global multi-industrial companies capture opportunities created by increased connectivity in homes, buildings and cities”*
- Essentially they want to provide standard product and integrate it
- This leaves open the space for bespoke engineered solutions that mitigate major accident hazards
- Blaze happily fill this space protecting, detecting and mitigating fire and explosion events in
  - Petrochem
  - NHS
  - MOD
  - Renewable energy – Rectifier Stations
  - Tank Farms
  - Waste to Heat Energy / Biomass
  - Oil & Gas



# Product Lifecycle



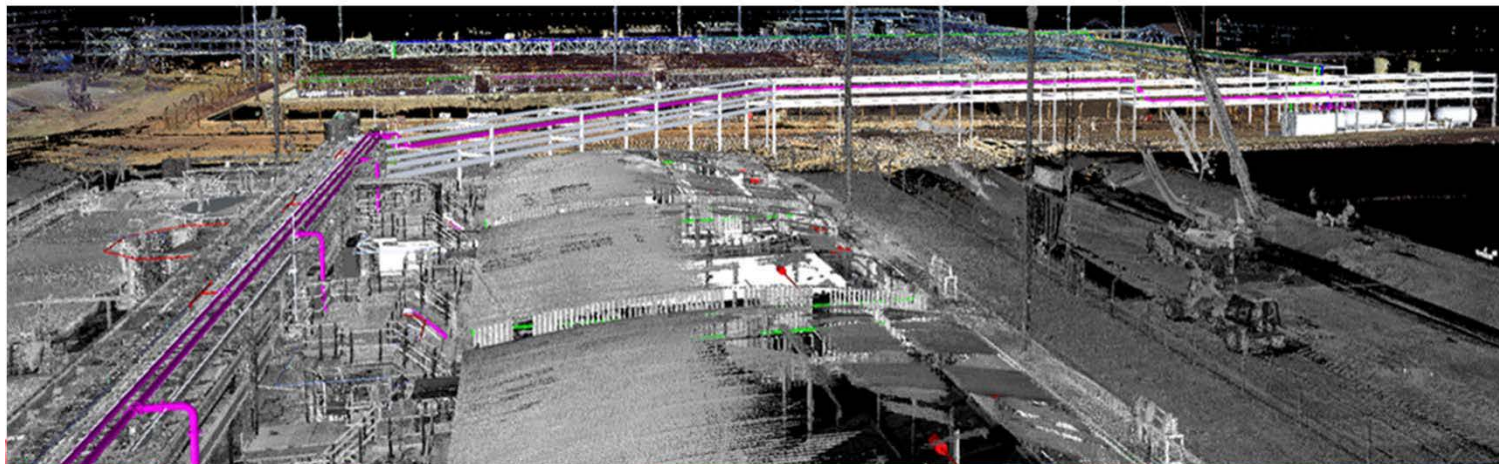
- To do this we have to have a strong innovation policy to deliver product to market
- All product has a finite lifecycle
- Maximum benefits come from early adoption and taking it into growth
- As maturity beckons we need to stay in front of the curve
- During the recession, we retrained our core team. We had to recalibrate to the new markets and products these required
- The principals of fire extinguishment and detection are the same
- We transferred our skills into new markets
- We internally challenged ourselves, doing things smarter and more efficient



# 3D Model / point cloud scan



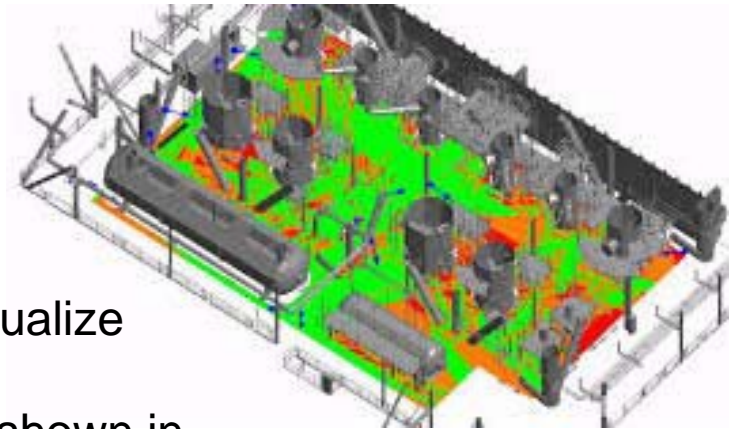
- The acquisition and data collection aspect we now utilise 360° laser scanning point cloud techniques
- This allows our engineers to focus on the design of the new systems and not spending 80% of their time as-building an asset
- Producing fully digitised models of the areas we run our pipework / systems through.



# Flame Mapping



- The data recovered will also enable an assessment of the Flame Detection Coverage required on site.
- This 'overlays' each detector's footprint onto the plant layout and constructs a graphical image of the detector coverage.
- The finished 'assessment' file
  - provides an objective estimate of the area's flame detection coverage
  - physical obstruction
  - interaction that is virtually impossible visualize without computer assistance.
- This optimizes detector coverage, the areas shown in green meet the flame detection coverage targets, those areas in orange and yellow show restricted targets while those in red have poor coverage and may require revision.



# Research & Development



- In the last 2 yrs we have put a far greater importance on Intellectual Property and Patents
- Profits from patents reduce the tax paid on those profits
- The Patent Box allows a 10% tax rate on profits derived from any products that incorporate patents.
- The value of IP can add as much as 80% to the company's net worth.
- All important, but none more so than aligning ourselves with the aspirations of our customers developing a suite of products that make operational integrity and compliance a priority across all markets



# Networking



- As a business, we also recognise the power of networking utilising all the forms of social media to listen and engage with our clients, competitors, supply chain and business support groups
- We are active members of the
  - Oil & Gas UK
  - Council of CBI
  - EIC
  - Elite Programme with the
  - London Stock Exchange



# Why were we successful



- UK Oil and Gas Supply chain is recognised throughout the UK as the most innovative, working in the harshest conditions and having to think on our feet
- Many countries throughout the world believe British Engineering to be the best
- We have all been innovating for the past twenty years whilst other industries have been afforded the luxury of stability thereby not needing to always improve
- We are used to using innovation to ensure our bid is cost effective, particularly in the recent years
- We are cheaper than our incumbent Global Competitors within the other markets because we understand legislative requirements and don't over engineer which is more costly
- We challenge the brief, not only bidding the required spec but often an alternative which is a more cost effective solution
- No where has more hostile conditions than the North Sea, a job on land – a breeze!
- We help each other. We are the only industry where we share information and support each other. Competition is healthy but never overstep the mark – Aberdeen is a village!