



Bodycote through a different lens

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Agenda

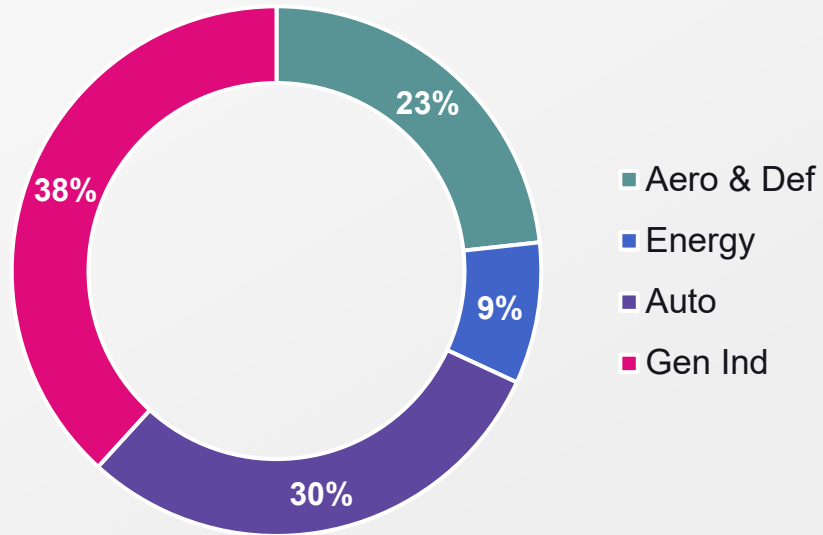
- Bodycote Group market sectors and geographies
- Classical Heat Treatment vs Specialist Technology
- Classical Heat Treatment strategy
- Specialist Technology strategy
- Summary

Bodycote Group

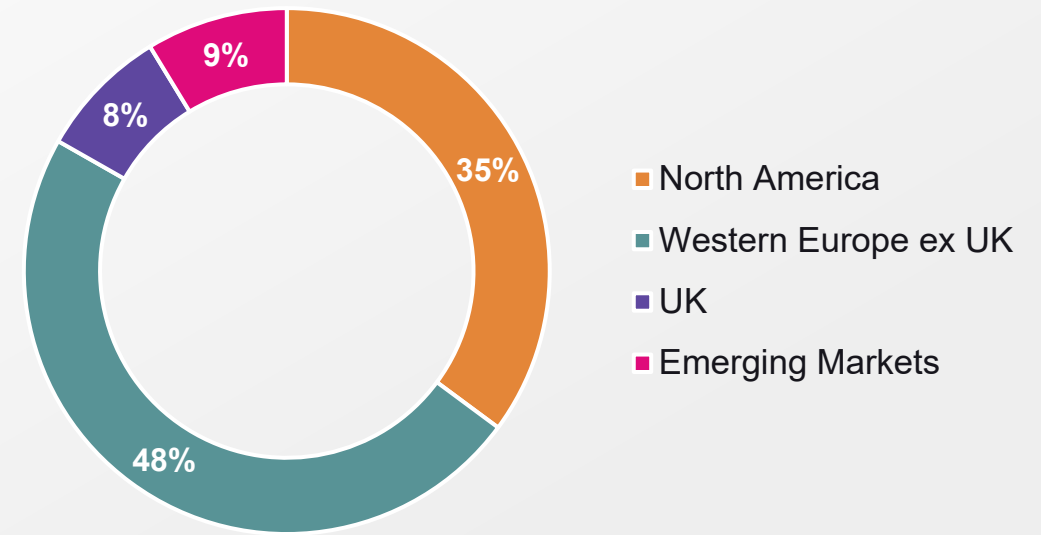
Market Sectors and Geographies



Market Sectors

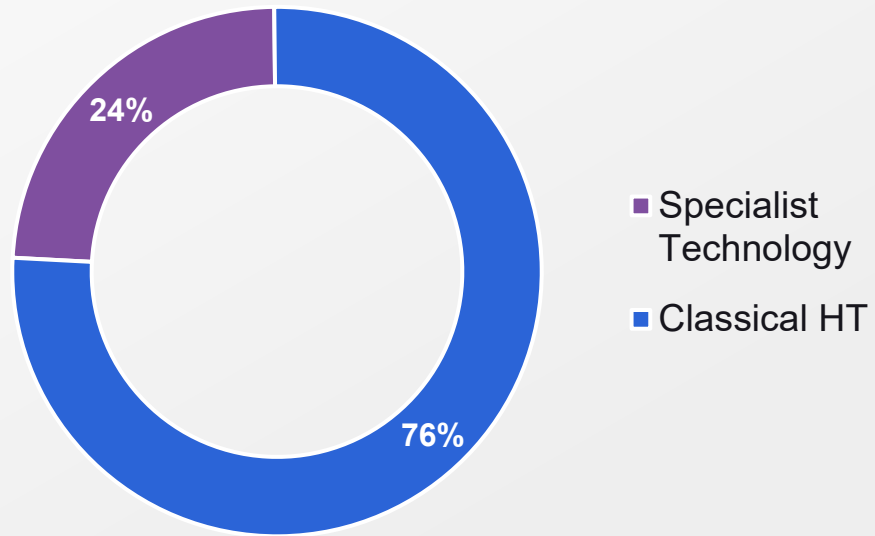


Geographies

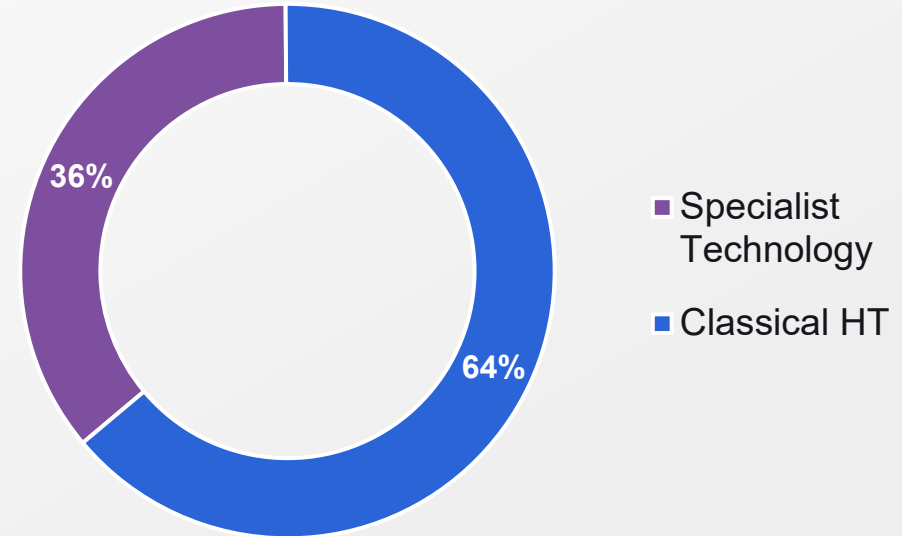


Classical Heat Treatment vs Specialist Technology

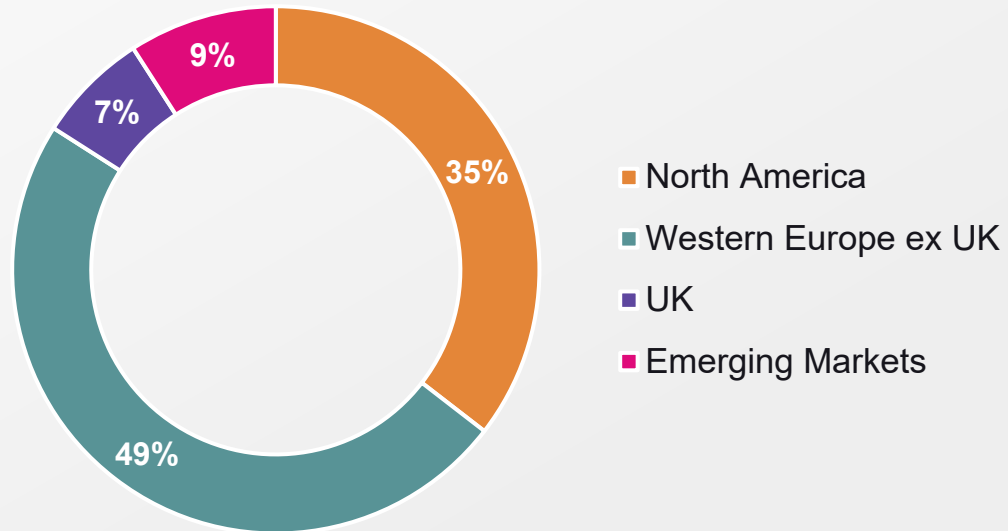
Group Revenues



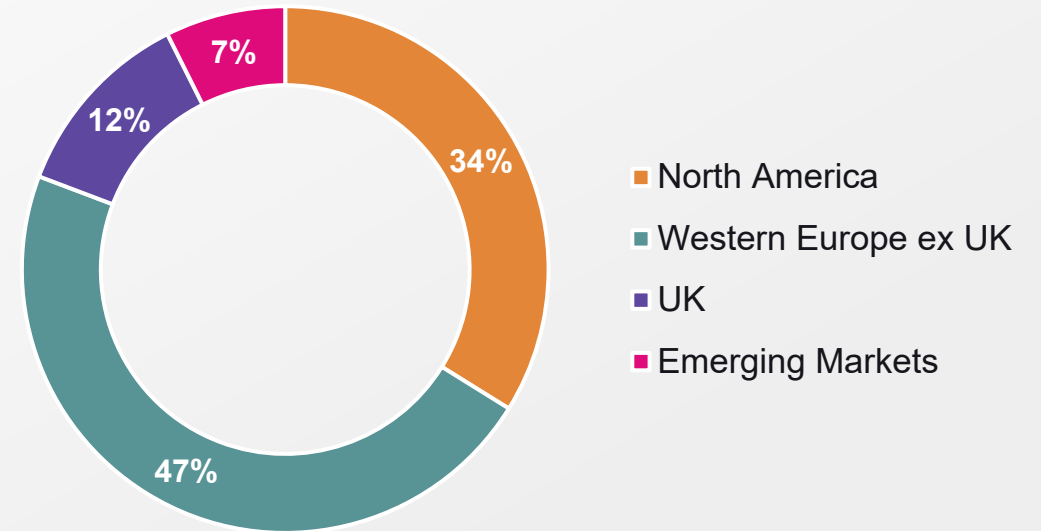
Group Profits



Classical Heat Treatment

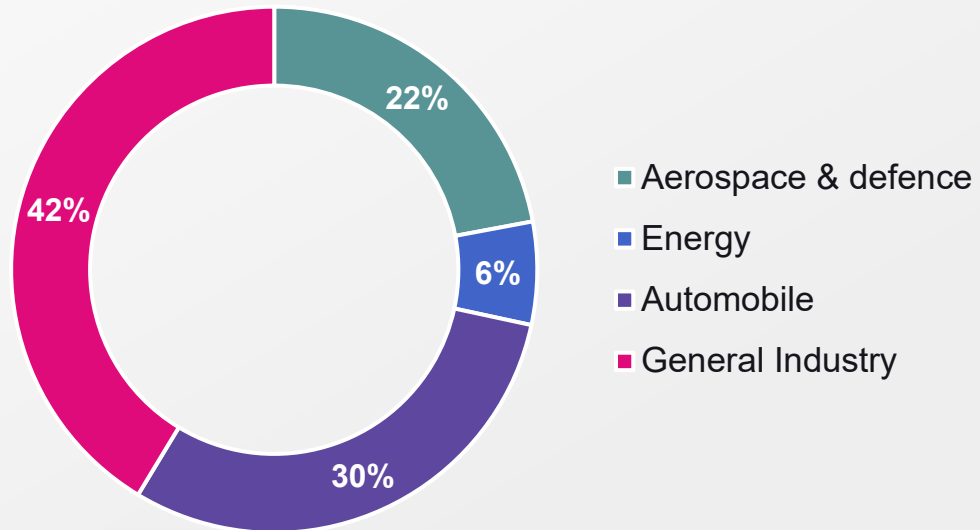


Specialist Technology



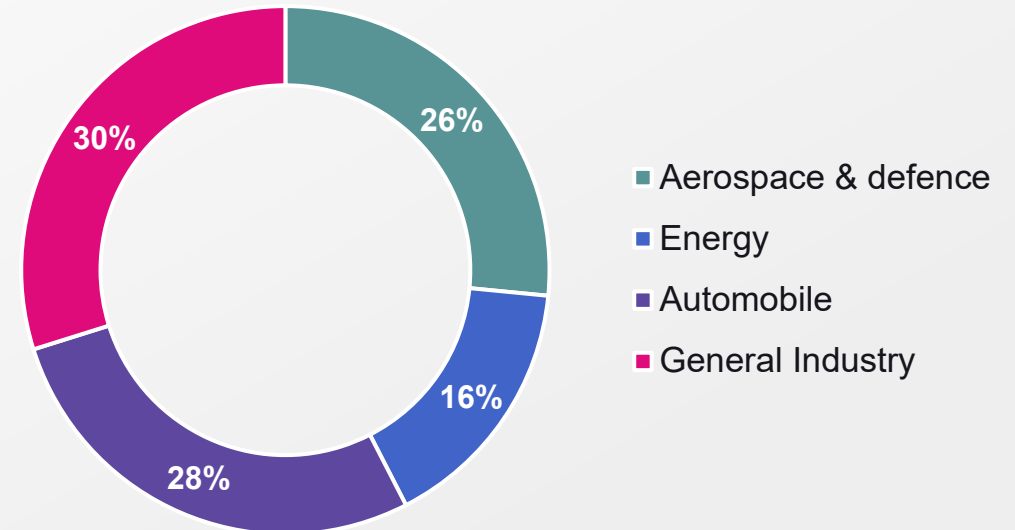
Market Sectors

Classical Heat Treatment



Relatively low weighting in Energy markets

Specialist Technology



Relatively evenly balanced across Aerospace, Automotive and General Industrial



Classical Heat Treatment



Classical Heat Treatment is the controlled heating and cooling process of metals in order to obtain the desired mechanical, chemical and metallurgical properties during the manufacturing of a product.

Classical Heat Treatment is an indispensable set of processes within the manufacturing chain of most of the products used in life. A seat belt buckle for example, hardens after heat treatment so that it keeps the passenger safe during an accident. A screwdriver lasts longer without wear or a screw fastens components together without fail only after heat treatment.

Classical Heat treatment is carried out in precisely controlled industrial furnaces which can heat up to temperatures above 1000C and use quenchants like oil, water or Nitrogen gas to cool the heated material. It provides wear resistance, strength or toughness depending on the application. During the process the microstructure of the metal transforms into a different structure which results in hardening or softening of the material depending on the process. Surface hardness can be adjusted by diffusing elements such as carbon and nitrogen into the metal during the heating stages of the process.

Classical Heat Treatment

Bodycote is by far the largest service provider

- Global total market estimated at greater than £23B
Some £18B is done in-house, but much of this is not addressable by 3rd party service providers as it is an inherent part of the production process
- The *addressable* market contains mostly low value added, commodity work
- Approximately £4.5B of the addressable market is served by 3rd party providers
This *served* market is predominantly serviced by numerous small competitors who carry out low value added, commodity work
- Bodycote's *target* market is higher value added work, much of which has limited competition

Bodycote revenues for Classical Heat Treatment represent a little over 12% of the served market

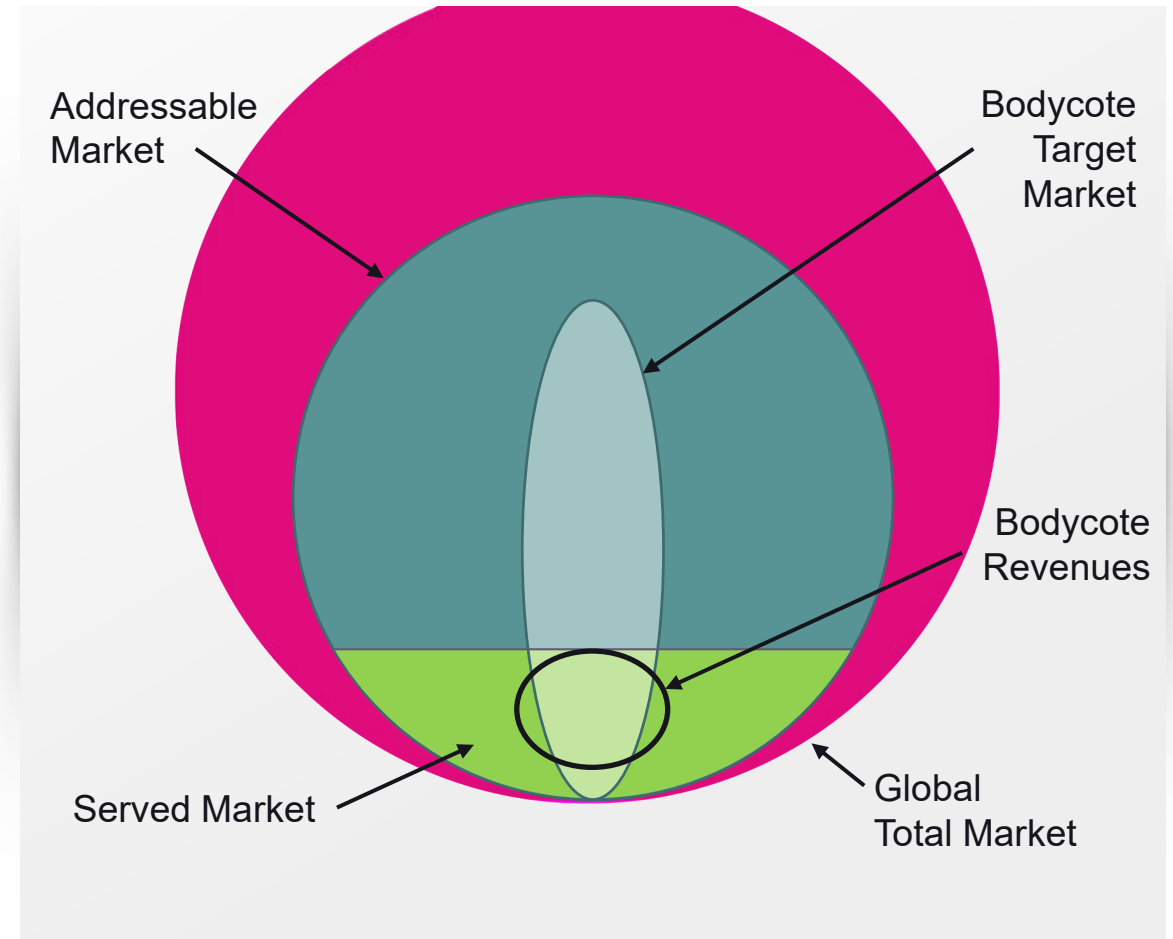


Diagram not to scale

Customers



Classical Heat Treatment

- While we do some work directly for the big OEMs, such as Boeing, Rolls-Royce, General Motors or Caterpillar – the majority of the work is for their supply chains
- We serve over 40,000 customers in the Classical Heat Treatment business
- The top 20 customers account for only 23% of revenues
- Customer density is not uniform across the market sectors. Aerospace is the most concentrated sector, followed by Automotive
- Accreditation is essential, particularly in Aerospace and Automotive and a Pre-Production Approval Process (PPAP) is often the first step of on-boarding a new customer. PPAPs can last months and are expensive for both parties.
- The direct sales force numbers less than 200 personnel and only addresses the larger customers. They rarely touch smaller customers. However, once a customer is won it will tend to continue to require services on a monthly basis (or even more often) for many years to come.

Classical Heat Treatment

- The **quality** of our CHT business is prioritised above the quantity – quality as measured by financial returns
 - Margins
 - ROCE
 - ROI

- **Continual focus on the target market** of high value add applications, avoiding the temptation to take on the abundant low value work that is available
 - Bodycote Margin Model

- **Operational efficiencies** are key:
 - simplicity of operations
 - high furnace loadings
 - achieving local scale by clusters of plants each with a relevant specialisation

Growth initiatives

Classical Heat Treatment

- **Capacity expansions** in existing facilities to service growing customer demands where respectable returns are achievable. Particularly targeted at aerospace given the long term secular growth drivers.
- **Geography** – Emerging markets
- Growing ‘**indirect**’ sales channels for General Industrial
- **Bolt-on acquisitions** where the advantages of local area cluster can be reaped – this is a clear synergy
- **Greenfields** where acquisitions are not available (which is typical of the emerging markets)
 - Greenfields have the advantage of a clean sheet of paper
 - They have the additional hurdle of start-up losses until sufficient business is secured (which typically takes 2 or 3 years – but can prove harder than expected)
 - Classical heat treatment Greenfields are built using an “anchor tenant” model with an LTA underwriting the risk (typically 5 to 10 years) and at least covers plant break even levels

Classical Heat Treatment

Scoping the future

- Key to Bodycote's strategy is to keep transitioning classical heat treatment away from low margins associated with commoditised and fragile businesses
- Margin enhancement will be aided/impeded by a benign/hostile economy
- A 1% margin enhancement adds 7% to profits

We expect Classical margins to be enhanced over the medium term, with progress bringing lower margin regions and sectors towards the Group average

There will, as always, be attrition/erosion to be combatted too

Profit growth won't be linear



Specialist Technologies



A selection of highly differentiated, early stage processes with high margins, large market opportunity and good growth prospects. Bodycote is either the clear market leader or one of the top players among few competitors.

Low Pressure Carburising (LPC)

Provides a hardened surface and tough core in a “clean” process under vacuum

Hot Isostatic Pressing (HIP Services)

Improves component integrity and strength by application of extreme pressure & heat

HIP Powdermet

Additive manufacturing of often complex components in conjunction with HIP

CiD

Improves corrosion resistance & wear properties without use of chrome

Specialty Stainless Steel (S³P)

Improves the strength, hardness and wear resistance of stainless steels

Surface Technology

Enhances component life using ceramic and metal coatings



CHT substitution



The heat treat specialist technologies

Two of the technologies are much higher value adding substitutes for classical heat treatment alternatives

Low Pressure Carburising (LPC)*

Provides a hardened surface and tough core in a “clean” process under vacuum

CiD*

Improves corrosion resistance & wear properties without use of chrome

**These are covered in more detail in a later presentation*



Adjacent technologies



The heat treat specialist technologies

The other four technologies are adjacencies to classical heat treatment

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Provides a hardened surface and tough core in a “clean” process under vacuum

CiD

Improves corrosion resistance & wear properties without use of chrome

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What makes a technology 'Specialist'?

- Capable of margins over 30%
- Has a very large market potential
- Capable of sustaining double digit growth for many years

By definition this means there are high barriers for a new entrant and Bodycote is, or can be, the number one (or in the top tier) with very few competitors. They are likely to be early phase technologies.

- Some Bodycote technologies have some of these attributes, but not all three, for example:
 - Brazing - good margins but doesn't have the growth or market potential
 - Gas nitriding - good margins and growth but doesn't have the market potential, ***but maybe this is changing***

Strategy

Specialist Technology

- The priority for Specialist Technology is **growth**
 - Margins and returns are excellent already
- **Expand capacity** at a rate to keep ahead of demand
- **Expand and improve human capital** (sales, technical support, operational support etc.) through investment in operating expenses

The major constraint on growth is the rate of market adoption

Specialist Technology

Scoping the future

- The specialist technologies have few competitors, though undoubtedly competitors will become established at some point in the future given the attractiveness of the business
- The Specialist Technology business growth rates and margin resilience is well established
 - 2018 growth was 12%
- The priority going forward is to grow the business as fast as possible, but without creating any significant risks

We expect Specialist Technology to become a larger portion of the Group over time

Group returns will benefit as a result

..... further increasing the quality of the Group business

The Bodycote strategic journey



Key aspects of the Group strategy are:

- Margin enhancement
- Growth
- Reduced volatility
- Recognising our 2 distinct lines of business – and prioritising accordingly
- Different business goals:
 - Classical: Prioritise business quality improvement over growth
 - Specialist: Prioritise growth

Expectations for the future

- Strong growth in Specialist Technologies
- Continuing business quality gains in Classical – shows as margin and reduced volatility
- Continuing strong cash generation

CAPITAL MARKETS DAY

2019

