

Alphadrive's usage-based services support the recycling industry on its journey to net zero

Midlands-based firm Alphadrive Engineering Services has employed a servitized business model to provide the recycling sector with a range of usage-based services. The company teamed up with academics at Aston Business School to develop outcome-based solutions and provide a one-stop shop of circular economy and recycling services, including design of bespoke equipment, consultancy, and monitoring. The next step on Alphadrive's transformation journey would be to offer more 'Advanced Services'. See Services Staircase on page 3.

At a glance...

- The UK generated 43.9 million tonnes of commercial and industrial waste in 2018. The waste sector accounts for around 8% of UK greenhouse gas (GHG) emissions and if we are to meet Net Zero 2050, we need to fundamentally change our approach to what we do with products and materials when we no longer have use for them.
- The recycling and waste management industry has reduced its GHG emissions by 46% since 1990 and the sector has committed to invest £10bn to accelerate decarbonisation. Scaling up recycling will prove critical not only in cutting emissions but driving our green industrial revolution.



Alphadrive was established in 2010 as a small general engineering repair shop selling industrial supplies to local Black Country scrap yards. It bought in plant to fix and soon developed skillsets in giving old and outdated equipment a new lease of life. Its engineers spotted an opportunity to support the recycling sector by refurbishing shredders, reengineering machines, and using innovative design to make equipment work more effectively.

The business began building a reputation for recycling the recyclers and extending the lifespan of equipment which owners could not afford to replace. The business applied its experience to then provide customers with custom-designed shredders at a fraction of the cost of new ones. Its Toro brand offered recyclers an opportunity to boost their productivity and expand their capabilities through usage-based services.

Rather than competing with high-volume manufacturers, Alphadrive concentrated its efforts on providing bespoke solutions. Its involvement in Aston's Advanced Services Growth Programme helped the business look beyond one-off transactions to a unique design, build, maintain and repair service. Customers can choose between bespoke built plant, a pay-as-you-use recycling service and having their existing equipment re-engineered to meet the demand of modern recycling.



Supporting the circular economy

We are in the midst of a climate emergency. If we fail to address greenhouse gas emissions, the global temperature is expected to increase by between 3 and 5 degrees Celsius by the end of the century with catastrophic consequences. In 2018, The Intergovernmental Panel on Climate Change (IPCC) released a report indicating that global emissions need to reach net zero around the middle of the century to give us a decent chance of keeping warming under control.

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Putting more focus on recycling will be key to that transition. The recycling and waste management industry has reduced its GHG emissions by 46% since 1990 and the sector has committed to invest £10bn to accelerate decarbonisation. Scaling up recycling will prove critical not only in cutting emissions but driving our green industrial revolution. The Waste and Resources Action Programme's (WRAP) research suggests that increasing recycling could add over £8 billion to UK Gross Value Added and create over 60,000 jobs.

Yet boosting recycling capacity will be no easy task. Too much of what we collect in the UK is then shipped overseas for recycling and it is critical we invest in domestic capabilities. Much of our recycling plant is outdated and not fit-for-purpose. New equipment is costly, both in terms of capital and carbon as we are largely reliant on importing new machines from the likes of Europe and China.

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Alphadrive recognised the need to get closer to its customer to understand their pain points and barriers to growth. Many recycling businesses do not have the capital expenditure budget to invest in new plant and the impact of Brexit and Covid-19 means that those that do are faced with prohibitive waiting times. Equipment can take around four months to arrive and reliance on overseas suppliers causes challenges when it comes to accessing maintenance and repairs.

The company set about developing its offering to support the sustainability agenda through re-use, re-design, and refurbishment services. It recognised that by re-engineering old equipment and releasing it back into the market it could prove a game changer, supporting both the circular economy and its customers' bottom line.

Output-based service solutions

Alphadrive knew that it needed to differentiate its offer in a competitive global market. Stripping down scrap equipment to machine, fabricate and get back online, was part of the solution but didn't go far enough. The firm needed to innovate and boost its customers' capabilities to steal a march on the competition.

In 2016, Alphadrive launched its own Toro brand of shredders. Engineers started out by retrofitting an old piece of machinery, creating a hybrid powered shredder with lower running costs, increased output, and reduced noise levels. They applied their expertise not only to make their plant more productive and energy efficient, but to meet multiple requirements.

The team developed an innovative "universal shear" which can be flipped to shred a range of materials with one machine. Customers are then able to diversify without acquiring new plant. The Toro shredding machine can move seamlessly between recycling mattresses to tyres, plastics to wooden pallets.

Other features include GPS/wi-fi technology to enable remote monitoring and a redesigned hopper to increase storage capacity. Engineers also worked on the hybrid conversion, installing a data logger for independent verification of measurements and efficiency.

At the heart of the Toro offer is a service-focus, which allowed the manufacturer to differentiate itself from more established competitors. Alphadrive knew from conversations with customers that many struggled to find off-the-shelf equipment that could meet all their requirements and had to settle for the closest fit. In contrast, Toro shredders are bespoke and designed to address all of the customer's individual criteria. They also allow recyclers to save money and carbon footprint by sourcing everything from the UK. That not only avoids having to ship equipment and parts but brings peace of mind around long term maintenance and repairs.

For those customers wanting to access more efficient recycling plant on a pay-as-you-use basis, Alphadrive has developed a mobile shredding service. It is particularly popular with companies that require infrequent and unpredictable shredding capability and cannot justify buying their own equipment. The machine arrives at the customer's premises and provides a resource that can be sold or recycled. This is far more efficient way of getting the job done in a more financially and energy efficient manner.

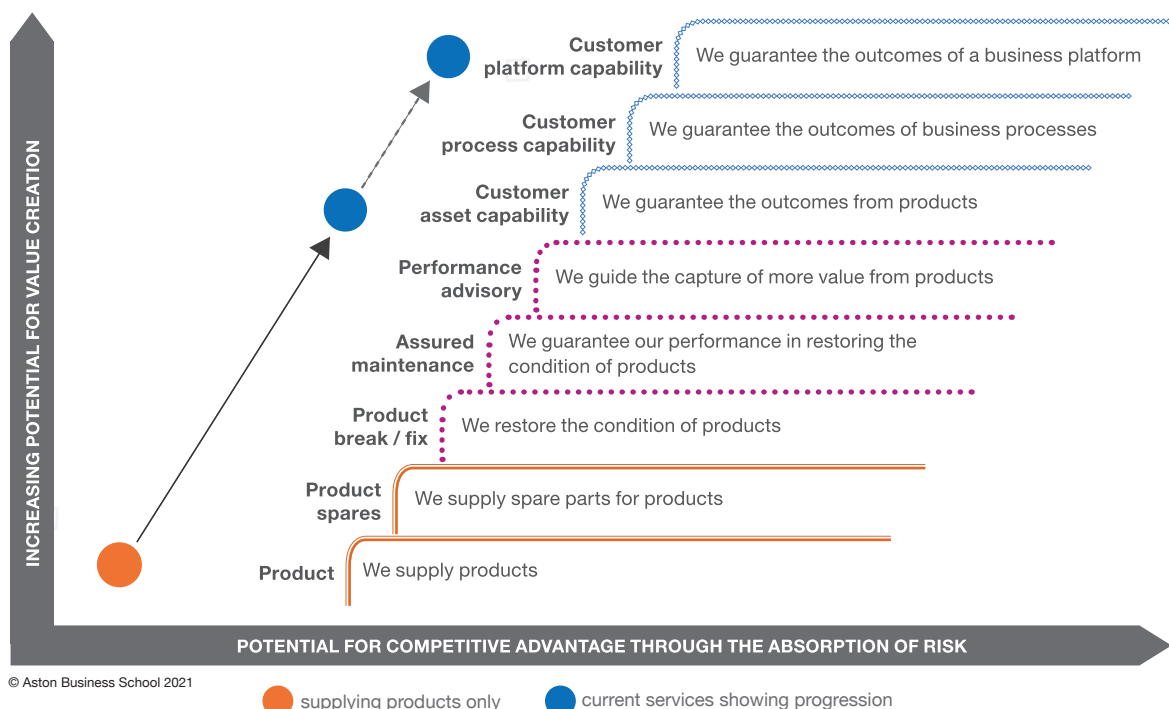
Alphadrive now looks beyond one-off transactions to developing long-term partnerships with customers focused on the provision of product-service packages. The conversation starts by talking about outcomes and value rather than products and price, which might then lead to re-engineering a redundant piece of machinery or helping design a new recycling process.

The company has used servitization to make the transition from a generic engineering company to a one-stop-shop of tailored services. These include equipment retrofitting, modifying component and machine condition monitoring to maximise performance, efficiency, and reliability.

Alphadrive recognises that it needs to continuously build on its offer and the servitization journey is far from over. The firm recently launched its new Alphadrive Design & Consultancy brand and continues to work with the team at Aston to develop new service solutions.

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Services Staircase



Overcoming challenges

The Covid-19 crisis forced Alphadrive to re-evaluate its business model and take time to reflect on how it could compete in an increasingly challenging market. The business had to reduce its workforce, was juggling its priorities, and had become reliant on low margin work.

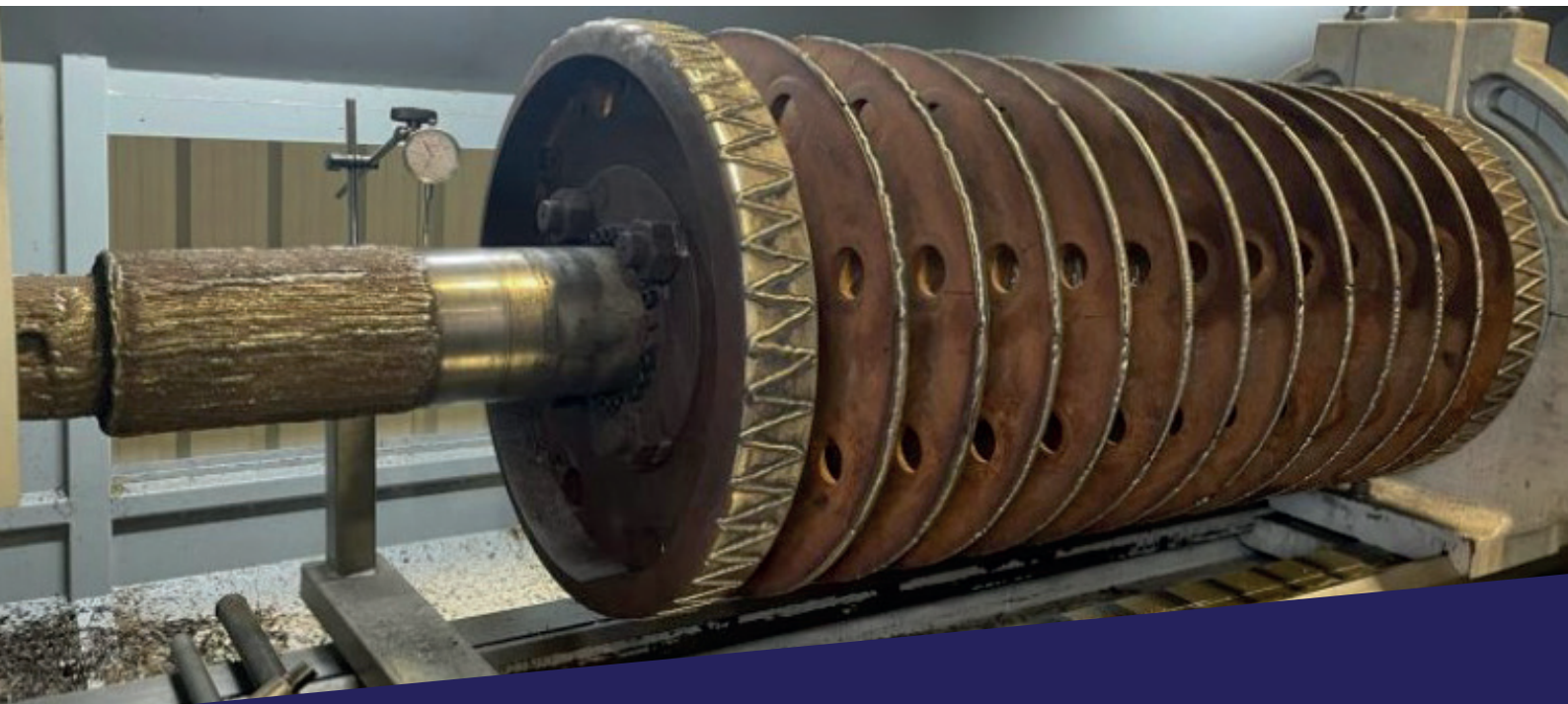
In order to differentiate its offer in order to grow, Alphadrive's participation in the Advanced Services Growth Programme allowed it to build resilience and gain a competitive edge. Whilst fellow repair shops were struggling to keep afloat with low margin work, Alphadrive was prepared to change its business model and offer customers a whole new value proposition.

The business transformed its offer to one that focuses on solutions. It gets to know its customers, identifies their challenges and packages tailored services to meet their specific requirements. That lays the foundations for long-term relationships where Alphadrive continues to adapt and improve the customer's assets as their needs change.

The customer has a partner who understands their requirements and can benefit the planet as well as their bottom line by making them more efficient in their recycling, reducing energy consumption and maximising the value of their recycling output.

Alongside usage-based services, Alphadrive can also help companies to save money, minimise hassle and reduce their carbon footprint by offering bespoke machines designed, built, maintained, and repaired in the UK.

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Servitization supports weapons surrender

Through its work offering usage-based services and product-service packages to the recycling sector, Alphadrive identified an opportunity to support West Midlands Police in getting dangerous weapons off the streets. The business has already taken the burden of collecting and recycling more than 1,000 knives and is now looking to roll out the service to police forces across the UK.

Turning things people don't want into something more valuable as part of the circular economy is what the Midlands engineering firm is all about. Alphadrive's Commercial Director Stuart Hill was keen to apply that model to other sectors beyond recycling and approached West Midlands Police to offer support in getting dangerous weapons off the region's streets.

In 2020, the business was awarded a three-year contract to collect knives from secure surrender bins, collate data, shred, and recycle the weapons as part of a comprehensive service package. Alphadrive designed a new tamper proof

surrender bin without the need for doors or keys and invested in a hammer mill to smash the knives.

The police are under pressure to tackle knife crime yet were struggling to cope with the burden of running an effective weapon surrender scheme. Alphadrive took over the entire process, from designing, locating, and emptying the bins to using software to collect data on the contents. The police have access to software which gives them a processing report on each weapon and where and when it was collected whilst the task of securely disposing of them has been taken entirely off their hands.

Alphadrive has so far collected more than 1,000 knives from 19 bins. West Midlands Police recently extended the contract for a further two years and the firm now intends to offer its advanced service solution to police forces across the country. Discussions are underway about what to do with the knives once they have been shredded, with options including turning them into base materials or recycle them into key rings to help raise awareness about the dangers of knife crime.

The Advanced Services Group

The Advanced Services Group (ASG) is a centre of excellence specialising in research into servitization theory and practice, as well as advanced service business models and the application to the manufacturing sector. Delivered through education and training programmes, the Group's research enables global manufacturers, small and medium-sized manufacturers and technology innovators to transform their business models based on services-led strategies. Underpinning ASG's research lie three critical questions: What is servitization and why is it necessary? What are the organisational structures, processes and technologies critical to success? How can a manufacturer transform to compete through services?

ASG translates its research findings into a series of practical frameworks, interactive tools, worksheet exercises and business games through which businesses are able to transform their business models and enhance their business performance. These tools take the company through road-mapping their business; benchmarking, identifying customer pains and gains, understanding their customer value proposition framework and storytelling. These enable the ASG to convey its findings to businesses in a clear and impactful way.

For more information go to: www.advancedservicesgroup.co.uk

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