



CASE STUDY

Dunlop Systems

INDUSTRY	Automotive, Rail & Industrial Manufacturing
APPLICATION	Prototyping, Tools and Fixtures, End-Use Parts
LOCATION	Coventry, UK
CUSTOMER SINCE	2019



CASE STUDY

Dunlop Systems and Components

From Electric Cars to In-House Tooling: How Dunlop is Changing the Game

£20,000

SAVED IN 6 MONTHS

£9,000

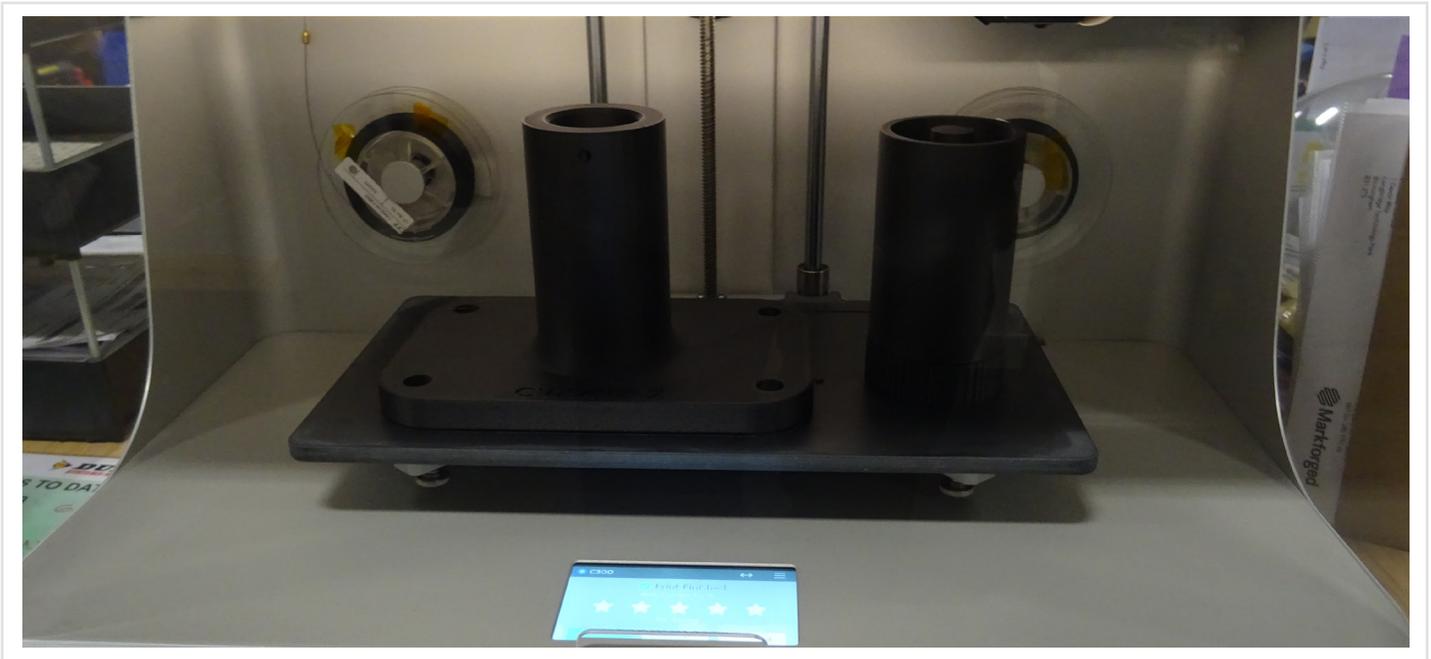
SAVED ON TOOLING

The Challenge

Dunlop Systems is a British automotive manufacturer based just outside of Birmingham. The company specializes in Anti-Vibration Solutions including automotive air suspension components and electronic control systems for OEM and aftermarket vehicle applications. Mark Statham, Production Engineering Manager at Dunlop Systems, is in charge of all the tooling used to make Dunlop's products. The company had a lot of old machinery and in-house tooling that needed to be replaced frequently. Internal and customer tools were sent to a third-party toolmaker to make, however as a result of customer design changes, costs spiralled without being completely recoverable. "You spend all that money and you wait two or three weeks for it to come in, and the customer then phones you up to tell you what they want changed," says Statham. Supplier time constraints was a constant issue, and Mark didn't want his team to be the bottleneck, so he set about looking for an alternative option.

“ I think it's opened up the mindset. We never say 'no we can't do it', it's now 'yes we can.' ”

MARK STATHAM,
PRODUCTION ENGINEERING MANAGER, DUNLOP SYSTEMS

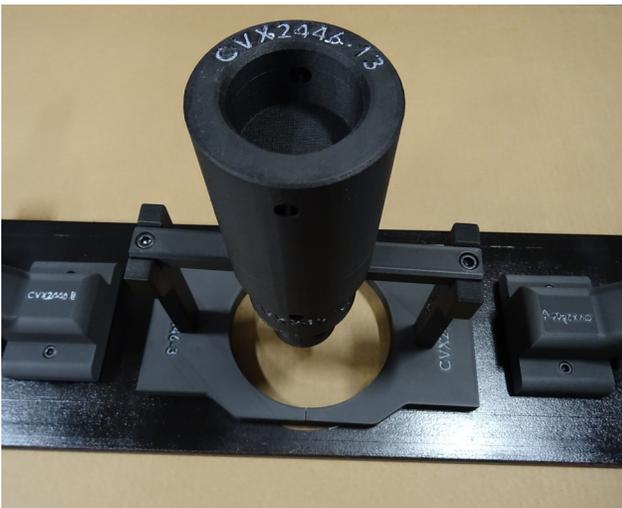


Dunlop Systems and Components currently has a Markforged Mark Two printer, with plans to add an Industrial Series X7 printer

The Solution

Mark attended a seminar about 3D printing where he heard about an industrial-grade 3D printer capable of printing in carbon fiber. He realized he could use it for tooling, as the material was robust enough to withstand corrosive environments. That same day, he went to his director's office and said that if he didn't buy a Markforged Mark Two, he'd regret it. His director agreed, and the rest is history. "Since we've had it, we've never looked back. It's the best thing we've ever bought. Should have bought it earlier to be honest," says Statham. Already, the team has found several applications for it, from prototype parts for electric cars to gauges and molds. Onyx and continuous carbon fiber have been a perfect fit for the company, providing strong, lightweight parts that can be easily printed on the team's Markforged desktop printer. "We're now basically going to be replacing all our tooling with Onyx," says Statham. Usually, the department spends around £20,000 on tooling alone. This year, they're only spending £11,000, thanks to additive manufacturing.

Dunlop Systems is currently using their Markforged composite printer to help bring an electric car to the market for a large automotive company. The beta electric car is currently out on the road with 3D printed Onyx prototype parts, and the custom 3D printed tooling has already been printed. The necessary parts were estimated to cost £8,000, but have now been quoted at £2,000 instead. "Our department has almost got bragging rights, because we don't hold things up," says Statham. "So that's a bit of a bonus as well."



Prototype tooling used to assemble the Electric Vehicle Suspension for an electric car the company is helping to produce



The team has replaced several parts with 3D printed parts using Markforged's Onyx material

Statham says another benefit of bringing additive manufacturing to Dunlop Systems has been the increased enthusiasm within the team. With no need to cut on costs while 3D printing parts, the department now has a quick turnaround for projects, and won't turn down a design challenge.

“ We've already saved £20,000 in just six months, so we're on target to save £40,000 this year if we carry on this way. ”

MARK STATHAM,
PRODUCTION ENGINEERING MANAGER, DUNLOP SYSTEMS

Looking Ahead

Since bringing Markforged technology in-house, Statham's department is now better respected on the shop floor, and plans to add a Markforged Industrial Series X7 printer in the near future to keep up with all the part requests they receive. "People are seeing tooling coming onto the shop floor more frequently than they ever did," says Statham. "I think they've had more tooling in the last six months than in the last five years."