A better understanding of life on the frontline

MARTIN WATT, Managing Associate - Dentons, and TAMMY SAMUEL, Partner - Stephenson Harwood, leave their offices to be taken on a guided tour of CAF's factory in northern Spain

It's inevitable that those providing legal services in any industry must often advise on commercial contracts without a first-hand understanding of why their client cares strongly about a particular clause, or why a given risk is difficult to manage.

For railway lawyers such as us, therefore, visiting the factory of a rolling stock manufacturer provides a superb opportunity to learn about how trains are designed, built, assembled and tested. It helps to bring the words on the page to life.

As legal advisers to Construcciones y Auxiliar de Ferrocarriles (CAF) on recent deals, we were delighted to join CAF and other stakeholders recently on a tour of the company's hugely-impressive factory at Beasain, in the Basque region of northern Spain.

Following on from its appointment to manufacture and supply new sleeper coaches for the Caledonian Sleeper services in 2015, CAF consolidated its UK position in 2016 with four further orders for new trains and maintenance services - two from the Northern franchise and two from TransPennine Express (TPE). The orders for electric multiple units (EMUs), diesel multiple units (DMUs) and locomotive-hauled coaches - over 400 vehicles in total - along with the associated maintenance and spares supply deals, are worth around one billion euros, and have announced CAF as a major player in the UK rolling stock market.

Stephenson Harwood acted for CAF on the Northern transactions, while Dentons acted for CAF on those with TPE.

Rolling stock manufacturers vary in the degree to which they outsource the manufacture and supply of train components.

During the tour, it was striking to see first-hand how CAF's business model includes a high degree of in-house manufacture. We saw, for example, that CAF procures ready-formed extrusions which are then welded together to form the bodyshells.

Flat sheets of metal are bent and shaped into the necessary configuration by machine on site at Beasain. Bogies and wheelsets are produced from scratch, starting with unformed steel sheets and cylinders.

The process of wheel production takes you back to the industrial revolution, but also relies on Beasain's fully-automated process: steel ingots are heated in a foundry and subsequently pressed, cut, shaped and refined to the necessary specification, all without human intervention.

The extent to which a manufacturer relies upon its supply chain at points in the manufacturing process is key to understanding the sub-contracting risks and timing concerns that often arise in a contractual negotiation. By seeing CAF's business model first-hand, we were better able to understand how the balance between sub-contracted and in-house production can have an impact on a contract programme, and how vital pieces are managed to avoid delay and other unwanted knock-on effects.

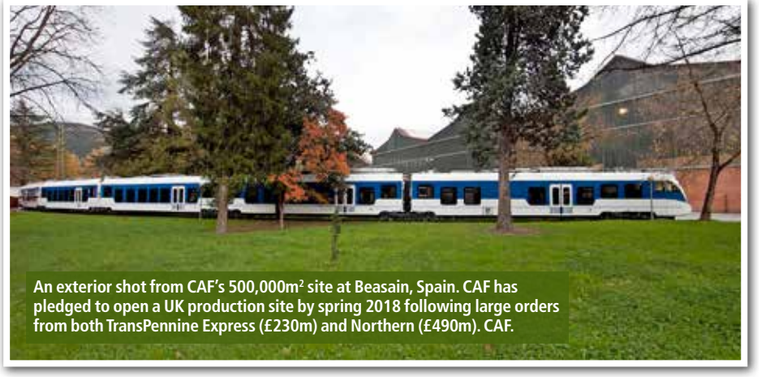
Our visit demonstrated to us that rolling stock is an enormous and complicated jigsaw puzzle, with the vehicles being designed, manufactured and assembled to within extremely tight tolerances.

We saw the design taking shape for the Northern and TPE orders in 3D on the computers of the designers. These designs are then sent to the factory, where precision machines cut the necessary parts.

The technology and intellectual property in the design and the processes for producing the trains are key in a contractual context, and our tour of CAF's factory demonstrated why the protection of that intellectual property is of vital importance to CAF for its business.

We know that manufacturers and their customers need to arrive at mutually-acceptable provisions around the management and use of the train design during its life, recognising that the trains will need to be maintained, repaired, and sometimes modified. Considerations vary, depending on whether the intellectual property concerned belongs to the manufacturer or other third parties.

Seeing how thoughts and inventions are created, refined and brought to life emphasised to us the importance of intellectual property to a manufacturer and why so much time and energy is expended on getting the contractual risk allocation just right.



An exterior shot from CAF's 500,000m² site at Beasain, Spain. CAF has pledged to open a UK production site by spring 2018 following large orders from both TransPennine Express (£230m) and Northern (£490m). CAF.

Northern's CAF order

Date	January 22 2016
Value	£490m
Vehicles	281
Notes	31 three-car and 12 four-car EMUs, 25 two-car and 30 three-car DMUs
Owner	Eversholt
Delivery	2018-19

TPE's CAF order

Value	£230m
Vehicles	126
Notes	12 five-car EMUs and 13 five-car coach sets
Owner	Eversholt and Beacon Rail
Delivery	2018-19

A selection of rolling stock is prepared at CAF's Beasain manufacturing site in Spain for delivery to a range of international clients. CAF.

Another key concern for any manufacturer is whether and to what extent it will have an ongoing responsibility for defects in its products after they have been accepted and paid for by an owner or financial backer. Rolling stock manufacturing agreements typically address these issues head-on with provisions such as general warranty periods, extended warranties for key components and design life commitments.

During our tour, we visited the recently-upgraded testing facilities that CAF uses. In laboratory-like conditions, state-of-the-art equipment simulates design life stresses, often for periods far in excess of contractual requirements and in the region of 30 or more years for any given order. Seeing these tests take place also helped us to put into context the testing and acceptance provisions that we so frequently review in manufacturing and supply agreements.

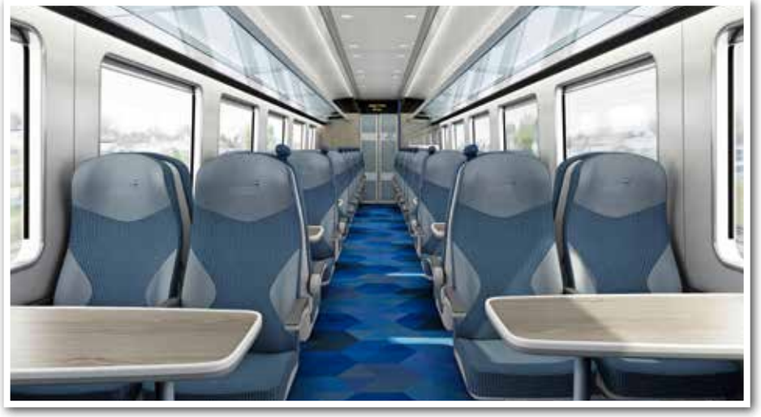
The assembly plant at Beasain is particularly impressive, with a number of different types of rolling stock being assembled at any one time for widely varying gauges and for many countries around the world. Car bodies are moved along an assembly line between a system of platforms in order to allow simultaneous work to be undertaken on the underside, roof and inside of the car body.

The assembly lines are readily adaptable to different rolling stock. This in itself feeds into the contractual structure and demonstrates how there are very few elements that are unique to a particular order. It also gives a visual understanding of what the client means when it talks about extensive 'work in progress' on an order, and the risks that this can present if an order is terminated part-way through its delivery schedule.

CAF has manufactured rolling stock for operators in Spain, France, the US, Mexico, Brazil, New Zealand, India and many other countries, with over 80% of its revenues now coming from markets outside of Spain. At any one time, the Beasain factory (which covers an area of almost 500,000m²) could be manufacturing a multitude of different types of stock, and it also produces the bogies and wheels for all of CAF's rolling stock, whatever the jurisdiction. It also has manufacturing and assembly facilities around the world and has recently confirmed its plans to establish a facility in the UK.

The global rolling stock market is increasingly competitive, with ever more manufacturers looking to fill order books with export deals. In a diverse and competitive market such as that in the UK, suppliers must constantly jockey for position and work hard to stand out from the crowd.

It was fascinating for us to gain a frontline view of how CAF's systems and processes at Beasain are boosting the company's ability to achieve a competitive edge. Undoubtedly, the experience will aid us in the process of negotiation and with the allocation and management of risks within the contractual structure, as well as helping to put our legal and commercial advice into a real-life context. R



A mock-up of the Standard Class interior of the 25 CAF-built five-car Civity EMUs currently on order for TPE. They will be delivered in 2018-19. CAF.