	ure	Current applications Needs improvement Future applications	~
SERVICES	Infrastructure	Footbridges, CFRP strengthening, Permanent formwork, Sewer lines, Troughing & trench cover plates, non-structural and semi-structural parts. Overdecking at station platforms, Station platforms, Rail sleepers, Road bridges GRP rebar, Rail bridges	
DDUCTS &	dustrial Utilities Buildings	Structural strengthening, Pods & tanks, Surface Primary structural members, Decorative finishes, Roofing products, Cladding, Thermal Primary structural members, Decorative breaks for doors & windows. FRP buildings, Improved rebar, Functional	
PR	Industrial & Utilities	Cured in place pipe, Platforms, Gratings, Modular building, GRP fencing, Cable trays, Industrial housings, Cladding, Anti-slip flooring, Trench/access covers, Automated grating Trench covers, Lightweight structures. manufacture, Cable troughing.	
Т	Targets	33 % reduction in the cost of construction and whole life costs.	\backslash
		50% reduction in the time taken from inception to completion of new build.	$\langle \rangle$
		50% reduction in greenhouse gas emissions in the built environment.	
		50% reduction in the trade gap between total exports and total imports of construction products and materials.	
	Strategic Areas	Digital techniques to deliver certain results and improve safety, quality and productivity during construction, optimise performance during the life of the building and better our ability to upgrade and ultimately dismantle and recycle buildings.	
		Offsite manufacturing technologies to maximise quality, minimise wastage, inefficiency and delays, thereby speeding up construction and reducing disruption.	/
	Sti	Whole life asset performance to shift focus from the costs of construction to the costs of an asset across its life cycle, particularly the use of energy for buildings.	
BARRIERS		Procurement process - Procurement is nearly always done on a first-cost basis. Until through life costs are considered, composites will struggle to compete. Single project contracts are a blocker.	
SARF		Perceived performance – Lack of understanding plus available data, codes and standards to demonstrate capability of composites blocks specification.	
		Perceived risk of using new materials – Construction sector is risk averse. Procurement is also complex meaning many levels of supply chain need to be educated when introducing new materials.	
	Techn- ology	Cost effective processing technologies and materials, Digital and automated manufacturing, Integrated functionality (5G, heating, SHM), Big data, Joining technologies, Phase change materials, Non-combustible materials, Models to predict design life, SHM, Maintenance, repair and overhaul technologies, Durable materials, Thermoplastics for rebar, Energy efficient materials, Colour stability,	
	regs, Codes, Standards	Guide on calculation of whole life costs, Open access materials data, Standardised materials, Guidance on performance in service, Gap analysis of regs codes and standards for composite adoption, Appropriate FST testing and standards, Guidance on inspection techniques, LCA codes, Suitable tests standards for the materials being used,	
	Skills	Manufacturing skills shortage, Courses for designers and architects, Lack of skills in new applications such as modular buildings	
	Supply Sustain- Chain ability	Design for recycling, Design for disassembly, Reuse of waste and end of life materials, Cost effective recycling solutions	/
	≥ _	Materials supply, Lack of communication and collaboration, Champions required within asset users for FRP use	

Summary of Composites in Construction **Roadmap Information to Date**