

Joining engineering

July 2025

Joining engineering roadmap

	Short term	Medium term	Long term
Industry challenges	Policy		
	New and emerging materials		
	People skills, capability and capacity		
	Tools and techniques for sustainability		
	Advanced design		
	Assurance and compliance		
	Process and development		
	Scalable manufacturing		
Technology capabilities		Automation	
	Materials		
	Fabrication for/in challenging environments		
	Next generation bulk and consumable materials		
	Advanced joining of dissimilar and recycled materials (A)		
	Design for disassembly		
	Joining design		
	High productivity		
	In-process monitoring		
	Joining assurance		
	Policy and certification		
	Process application and development		
	Supply chain joining, mapping and upskilling		
	Workforce development		
		Life extension of products	
HVM Catapult developments	Mechanical joining		
		In process technologies	
			Digital and physical separation for processing
	Access to funding		
	Digital passports		
	Materials database		
	Sustainability tools and data systems		
	Academia		
	Collaboration with industry/suppliers		
	Standards		
	Design innovation		
	Digital design tools		
		Digital architecture for manufacturing	
		Skills	

