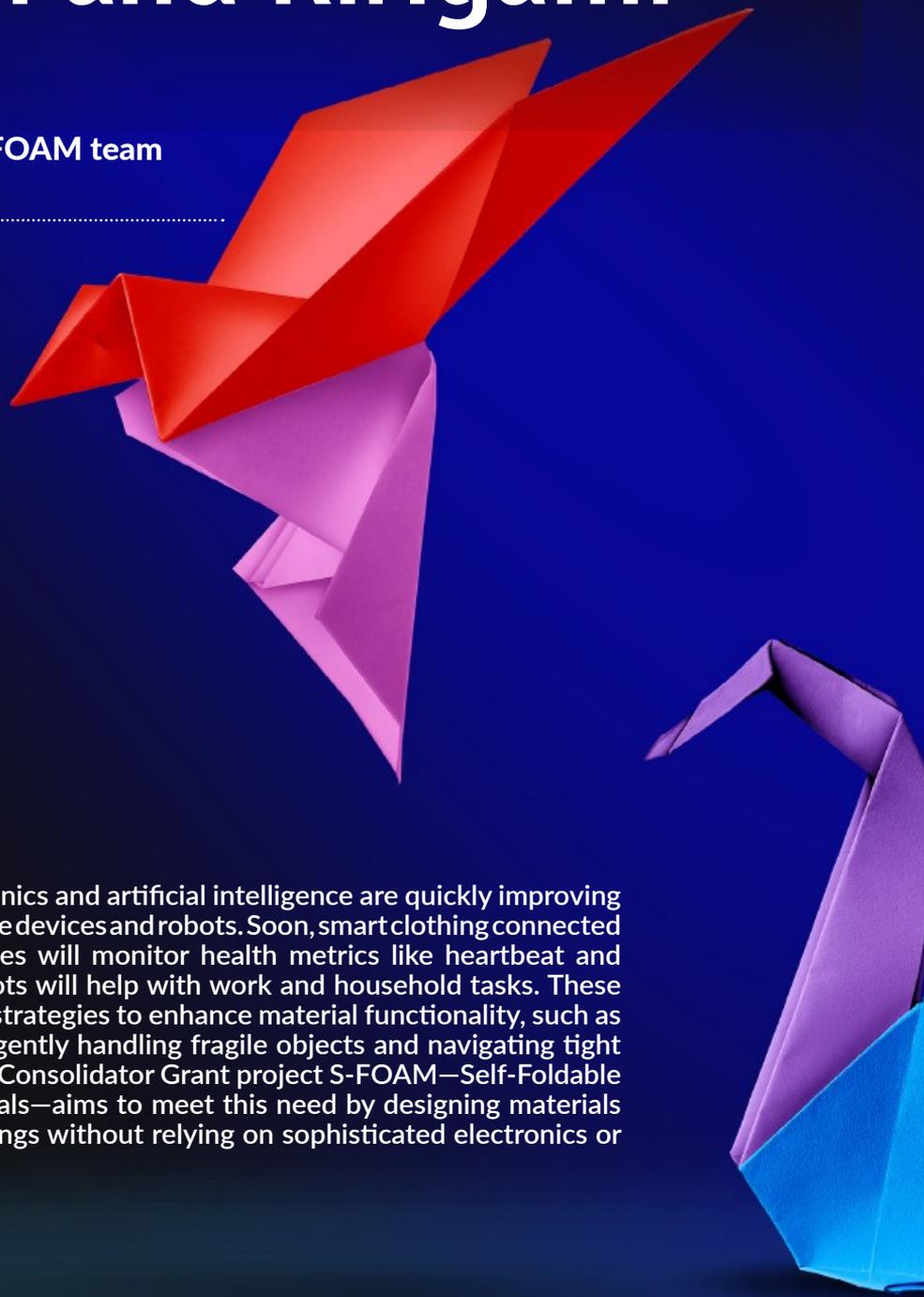




From paper to innovation: revolutionising technology with the ancient art of origami and kirigami

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Technological advances in electronics and artificial intelligence are quickly improving how humans interact with wearable devices and robots. Soon, smart clothing connected to smartphones and other devices will monitor health metrics like heartbeat and insulin levels, and humanoid robots will help with work and household tasks. These innovations demand new design strategies to enhance material functionality, such as adapting to human movements, gently handling fragile objects and navigating tight spaces with robot arms. The ERC Consolidator Grant project S-FOAM—Self-Foldable Origami-Architected Metamaterials—aims to meet this need by designing materials that self-adapt to their surroundings without relying on sophisticated electronics or closed-loop controls.