GRAPHIC 1 BIOCONVERGENCE 2040 RAPIDLY EVOLVING **EMERGING APPLICATIONS** TECHNICAL CAPABILITIES BIOCONVERGENCE ARE NOW ENABLING **RESEARCHERS TO:** Digital / Personalized healthcare Visualize, measure, Bioprinting / Xenotransplantation identify, and manipulate biological systems at Reproductive Engineering increasingly smaller scales. Read, write, edit and Biosystems / Ecological Engineering execute DNA, RNA and amino acids sequences with high precision to Computer-Human Interfaces synthesize useful FACTORS SHAPING BIOTECH organisms and materials. Biomanufacturing Collect, digitize, analyze and store population scale DNA storage volumes of biological, behavioral and environmental data to Eradication of major diseases Collaboration and cooperation learn and predict how genes, environment and lifestyle work together. On demand medicines Responses to environmental Create and merge changes biological and Synthetic organisms Geopolitical competition non-biological materials with novel properties. Transformation of agriculture and food production