

QP 685. Mme/Mvr Bianca Debaets/Annexe

EMERGING TECHNOLOGIES
1. Biotechnology , including nanobiology, synthetic biology, genomic and genetic engineering and neurotechnology.
2. Artificial intelligence ('AI') and Machine Learning , such as: (i) Neural networks and deep learning (e.g., brain modelling, time series prediction, classification); (ii) Evolution and genetic computation (e.g., genetic algorithms, genetic programming); (iii) Reinforcement learning; (iv) Computer vision (e.g., object recognition, image understanding); (v) Expert systems (e.g., decision support systems, teaching systems); (vi) Speech and audio processing (e.g., speech recognition and production); (vii) Natural language processing (e.g., machine translation); (viii) Planning (e.g., scheduling, game playing); (ix) Audio and video manipulation technologies (e.g., voice cloning, deepfakes); (x) AI cloud technologies; or (xi) AI chipsets.
3. Position, Navigation, and Timing (PNT) technology
4. Microprocessor technology such as: (i) Systems-on-Chip (SoC); or (ii) Stacked Memory on Chip.
5. Advanced computing technology , such as: (i) Memory-centric logic.
6. Data analytics technology , such as: (i) Visualization; (ii) Automated analysis algorithms; or (iii) Context-aware computing.
7. Quantum information and sensing , such as (i) Quantum computing; (ii) Quantum encryption; or (iii) Quantum sensing.
8. Logistics technology , such as: (i) Mobile electric power; (ii) Modeling and simulation; (iii) Total asset visibility; or (iv) Distribution-based Logistics Systems (DBLS).
9. Additive manufacturing (e.g. 3D printing)
10. Robotics , such as: (i) Micro-drone and micro-robotic systems; (ii) Swarming technology; (iii) Self-assembling robots; (iv) Molecular robotics; (v) Robot compliers; or (vi) Smart Dust.
11. Brain-computer interfaces , such as: (i) Neural-controlled interfaces; (ii) Mind-machine interfaces; (iii) Direct neural interfaces; or (iv) Brain-machine interfaces.
12. Hypersonics , such as: (i) Flight control algorithms; (ii) Propulsion technologies; (iii) Thermal protection systems; or (iv) Specialized materials (for structures, sensors, etc.).
13. Advanced materials , such as: (i) Adaptive camouflage; (ii) Functional textiles (e.g., advanced fiber and fabric technology); or (iii) Biomaterials.
14. Advanced surveillance technologies , such as: Faceprint and voiceprint technologies