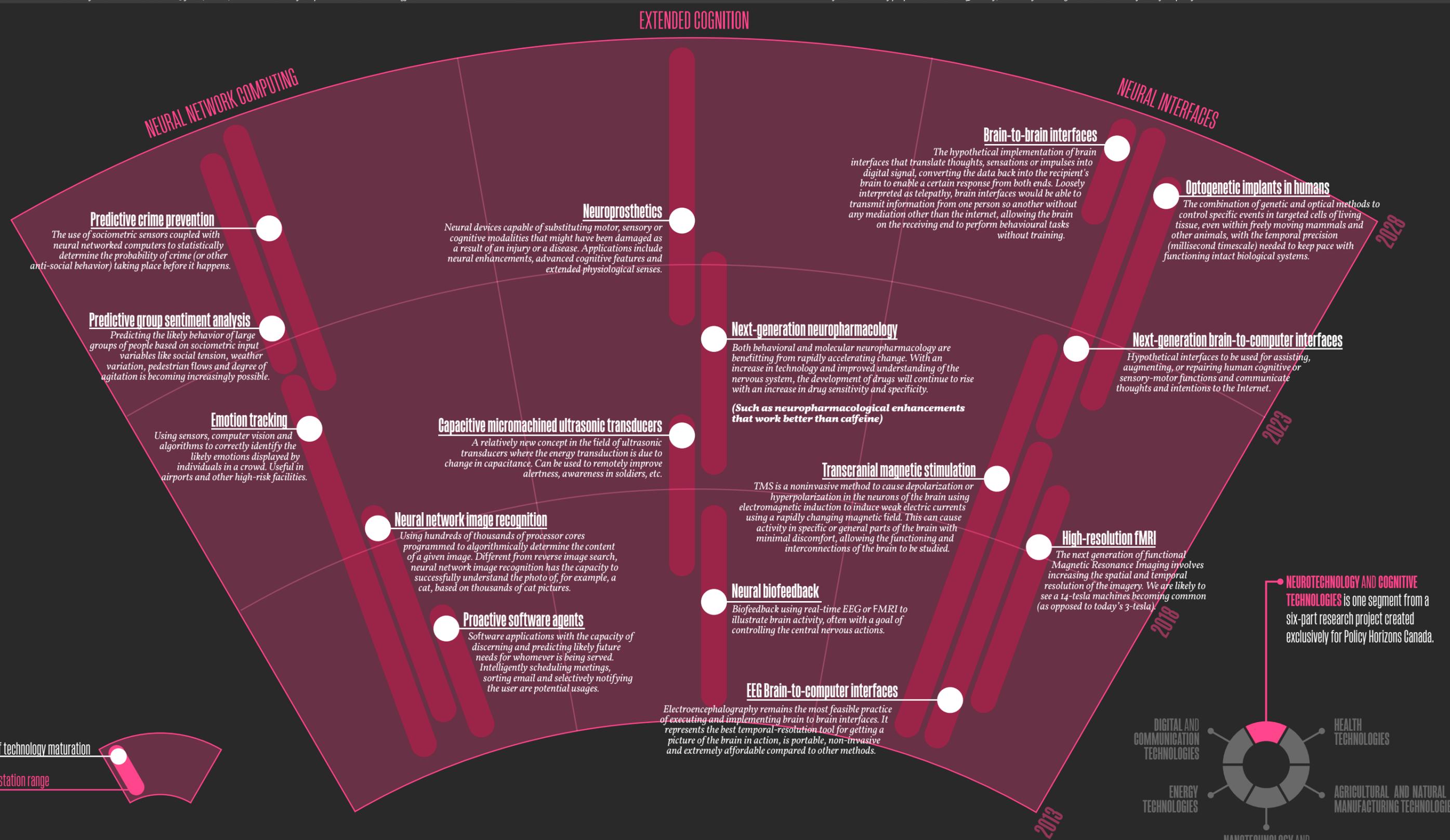


The near future of technology promises change at an ever-increasing pace while rapidly transforming business models, governments and institutions worldwide. In order to help us make sense of our uncertain future, Policy Horizons Canada engaged Michell Zappa of Envisioning Technology to explore key technologies that are likely to have a profound effect on humanity on a global level and generational timeframe. This report is structured around six key areas of technological research: digital and communications, neuro and cognitive, health, agricultural and natural manufacturing, nano and material science, and finally energy. It provides a sense of how broad and far-reaching our future technologies might be. Digital currencies, hydrogen energy storage, brain-to-brain interfaces, and robotic farms are all likely to be common before 2030. Each of the six key areas indicates the dozen or so interdependent technologies that are most likely to have a high impact on society and the economy. The six images provide the reader with maps of how the technologies portrayed in each area are likely to mature over the next 15 years; that is, our best estimate of the point at which a technology matures so that it can be used.

Below is a diagram that analyzes neurotechnology and cognitive technologies. It identifies three key areas of accelerating change: Neural Network Computing, Extended Cognition and Neural Interfaces. Neural network computing will lead to improvements in computer vision and analysis, such as detecting emotions and moods, which may have safety and security applications. Extended cognition involves more direct connection to people's brains, allowing mood, thought patterns and information to be altered in the brain. Neural interfaces get information out of people's brains more efficiently, ultimately allowing a machine-enabled form of telepathy.



NEUROTECHNOLOGY AND COGNITIVE TECHNOLOGIES is one segment from a six-part research project created exclusively for Policy Horizons Canada.

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