

White Paper

# The Digital Arab World

## Understanding and embracing regional changes in the Fourth Industrial Revolution

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# Future of Human Enhancement

## What is the future of human enhancement in the Arab world?

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Human enhancement is increasingly considered among the most transformational forces of the 21st century. Its impact extends into a wide range of human activities, from the workplace to the battlefield, as well as into the domain of ethics and existential questions, leading to serious concerns about our own future as a species.

Human enhancement refers to the range of technologies and interventions to boost human capabilities – physical and cognitive – beyond the normal characteristic of our species. Human enhancement is, therefore, an intervention to the human body, which improves performance beyond normal physiology and what is necessary to sustain health or restore lost functions. Enhancement is therefore different from treatment and restorative medicine, which are concerned with healing and bringing damaged or lost functions back to normal parameters. This distinction is not without controversies, but in most cases it is easy to separate treatment from enhancement.

For example, a treatment to stall or prevent muscle atrophy is clearly different from an intervention that increases muscle power in healthy individuals and gives them endurance and strength beyond what is typically normal for that age group. Similarly, hearing aids to help maintain or restore declines in sensory perceptions is different from hearing implants that boost auditory acuity far above what is normally perceptible to humans.

Other examples of cognitive enhancements include drugs such as amphetamines (used widely by the US during the Vietnam War), Modafinil, which enhances decision-making skills and alertness, but also non-pharmacological enhancements, such as transcranial electrical stimulation. Physical enhancement includes diverse methods such as genetic therapies to modify human digestion, nutrition and metabolism, implantable devices, brain-computer interfaces or external devices that enhance human endurance in extreme conditions of physical stress (such as extreme heat or cold). Some of these technologies might still appear sinister to many, but they may well become the new normal in a decade or two.

When US-based company Three Square Market proposed implanting its employees with a chip the size of a grain of rice between their thumbs and index fingers, most volunteered. While this is not yet a form of enhancement (the chip has functions such as opening doors, logging into the computer, or paying food at the cafeteria), the privacy concerns and health implications are already offering a preview into the ethical questions surrounding enhancement. This example is also telling of the wider appeal of enhancement technologies.

A general prediction for the future of enhancement is that human nature will make the adoption of these technologies inevitable, even when these technologies will threaten to change us beyond recognition and change what it means to be human. I refer to this previously as “inevitable transhumanism”. Humans are motivated by what I called the Neuro P5: power, profit, pleasure, permanency and pride. If a new technology promises to enhance one or more of these motivators, we will be drawn to use and adopt those technologies even if they carry long-term ethical and existential risks.

### Human enhancement and Islamic beliefs

It is difficult to speak of the Arab world as a homogenous entity as many states in the region are sharply divided by politics, and are at different stages of socioeconomic development. In fact, the region comprises a remarkable array of states, from weak and failing to highly stable and successful ones. It is therefore easier to imagine that enhancements will first reach the urban centres in some of the Gulf countries, and maybe decades later other parts of the region.

In addition to the different economic contexts, the Arab world is at the same time bound together by a common faith, Islam, and the range of social norms that derive from it, as well as a specific understanding of humanity that promotes dignity and equality (even if often absent and neglected).

Islam professes equality among people and places great emphasis on justice. Islamic law also provides a unique right in the provision of the “right to sufficiency”, which implies that everyone should live on the adequate needs of life, with a decent and appropriate standard of living – a right that is achieved through work. This right is also connected with the idea of responsibility, and the obligation of not abandoning those in need, especially when one’s own means permit to help others.

Enhancement technologies will therefore, by definition, clash with core beliefs of Islam, as they will be privileging some people over others. In a larger sense, enhancements will disrupt the notion of justice, robbing a class of individuals of the opportunities to participate in society on the same footing as others.

How will human nature – and the Neuro P5 – be able to accommodate the equitable, meritorious and just teachings of Islam? This remains an open and complicated question. A likely outcome is that human enhancement will encounter significant resistance in Arab societies on the regulatory and theological level – although state militaries and large corporate entities might have a different approach. Emboldened by the necessity to adapt and close the technological gap, as well as by the non-negotiable priorities of national defence, security and competitive economies, they might not afford to repudiate human enhancement in the military or the mega-corporate level, if other states are deploying enhanced soldiers and enhanced executives.