China's leapfrog progress in applying AI to the military sphere

According to the Pentagon's Chinese Military Power report, China's military power is steadily closing the gap with the United States. In 2017, Chinese President Xi Jinping ordered a complete modernisation of the People's Liberation Army by 2035 and since then China has expanded military spending which this year has been increased by 7,5%, despite a slowdown in economic growth. This heavy investment, including a boost of 13,4% in research funding, has led to leapfrog progress allowing China to apply artificial intelligence (AI) to the military sphere, where it can be adapted to several roles such as reconnaissance, mine laying and attacks on enemy vessels at sea.

Autonomous and semi-autonomous drones and submarines will eventually be capable of analysing combat situations and carrying out missions assisted by AI. Actually there are concrete products that show that the industry can do: the UCAV (Unmanned Combat Aerial Vehicle) Ziyan Blowfish A2, i.e. an attack helicopter drone; the Wing Loong 1 (Pterodactyl) long range UCAV and the amphibious combat drone Marine Lizard (Haiyang Xiyi), equipped with machine guns and vertical launch missiles, capable to plot its course to the chosen combat landing beach.

Articles published in the PLA newspaper suggest that AI can also help Beijing's planners predict what could happen on a battlefield and offer an advantage to Chinese troops.

The semiconductor industry, a sector where China has long relied on imported technology, is also being developed. Vast amounts of capital have been allocated to build an advanced semiconductor manufacturing supply chain. Last December, the consulting firm Deloitte Global anticipated that by the end of this year, a Chinese chip foundry will begin producing semiconductors for AI and machine learning tasks.

In fact on the outskirts of Wuhan is located a very large factory that belongs to Tsinghua Unigroup, a state-backed microchip manufacturer. Tsinghua Unigroup intends to treble the Wuhan site in size,

investing $24 billion and to build two other factories in Nanjing and in Chengdu, setting a record in this field for Chinese industry.

Yet despite what the Pentagon publication states, the Chinese leadership has also a clear perception of the weak spots of national AI programmes and environment. China's January 2018 "White Paper on Artificial Intelligence Standardization" points out that the China's AI ecosystem lags in several key areas, an assessment share also by the Tsinghua University China AI Development report:

- Hardware and algorithm development;
- Gaps in the top-tier talent pool;
- Technical standards;
- Software platforms and
- still in Semiconductors.

Elenoire Laudieri – *Sinologist and Chief Analyst on Chinese Affairs at Nato Defense College Foundation. Foreign affairs writer for international magazines and publications.*