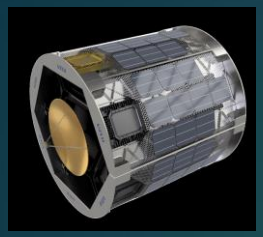

New Trends in Conducting Military Operations and Tasks for the Academia

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Introduction

Unpredictable security environment evolvement leads to high demands on Defence efficiency and readiness, it leads to the search for innovative approaches in all dimensions of the operational environment.

Current developments show that the nature of future conflicts will be significantly different from the combats we know today and technology with advanced decision-making approaches will play a crucial role.

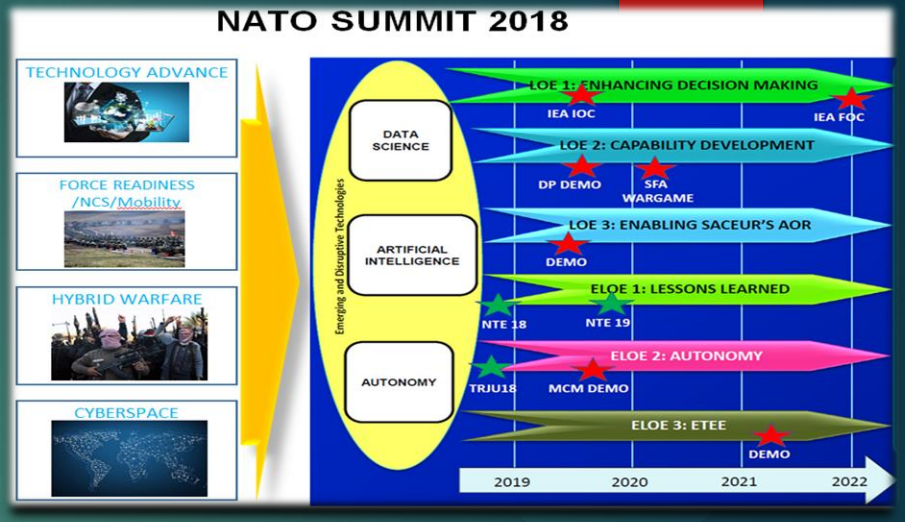


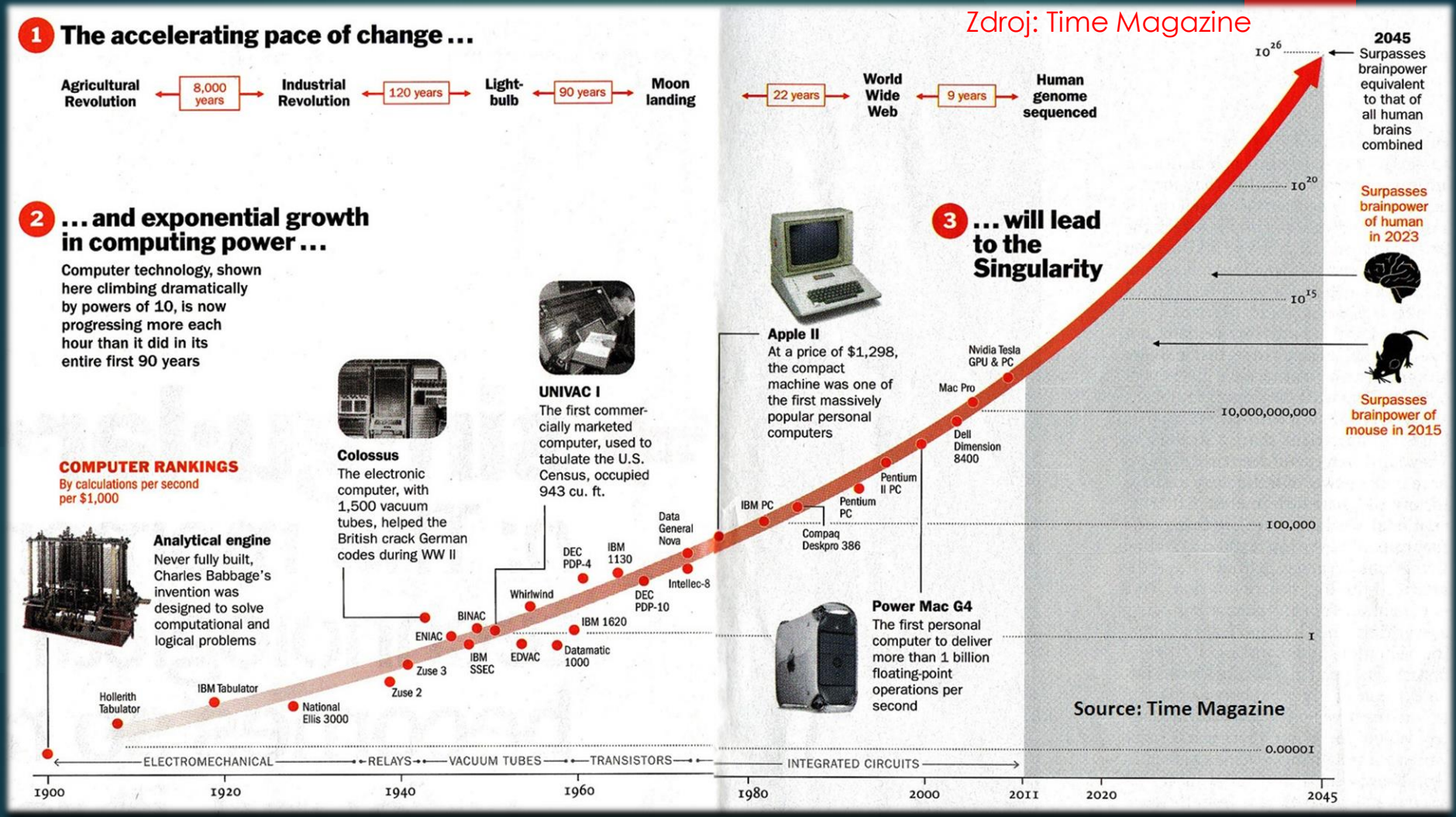
Figure 3. Value of Autonomy to DOD Missions

Relative Value of Autonomy			Examples
LOW	Required Decision Speed	HIGH	Cyber Operations Missile Defense
LOW	Heterogeneity & Volume of Data	HIGH	IMINT Data Analysis ISR Data Integration
HIGH	Quality of Data Links	INTERMITTENT	Contested Communication Unmanned Undersea Ops
SIMPLE	Complexity of Action	COMPLEX	Air Operations Center Multi-Mission Operations
LOW	Danger of Mission	HIGH	Contested Operations CBRN Attack Clean-Up
LOW	Persistence and Endurance	HIGH	Unmanned Vehicles Surveillance

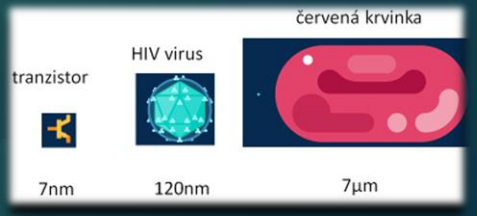
Source: Defense Science Board, "Summer Study on Autonomy," June 9, 2016, p. 12, https://www.acq.osd.mil/dsb/reports/2010s/DSBSS15.pdf.

Ray Kurzweil prognosis… path to Singularity

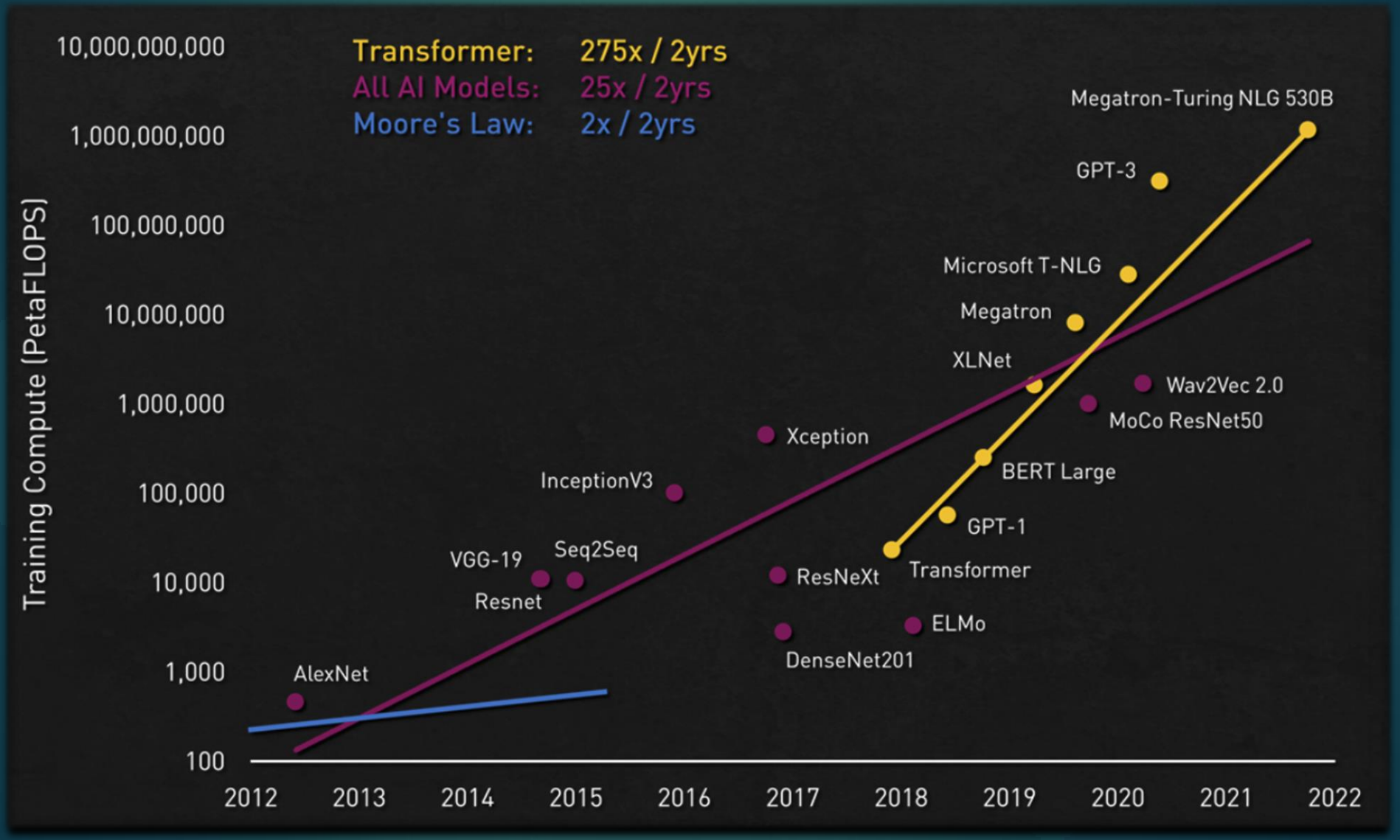
Zdroj: Time Magazine



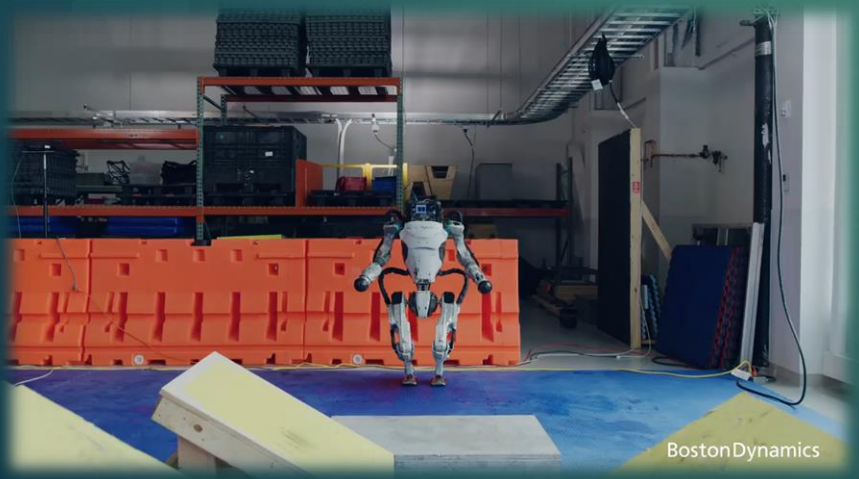
https://www.medicaldesignandoutsourcing.com/futurist-ray-kurzweil-predicts-printed-organs-nanorobots-connecting-brains-computers-cloud/



Trends in artificial intelligence complexity and performance



Development trends in military robots



Proposed conclusions

- Increased dynamics of future conflicts will impact an MDMP, which needs to be modified or enriched with new tools and technology, which could affect military education, training and exercise.
- The rapid evolvement of AI and other EDTs leads to a need for a deeper understanding of this technology and potential risks or applications in the military. This activates pressure to reconsider the military university study programs to fulfill this requirement.
- Complexity of the technology evolvement tracking and understanding leads to a trend of internationalization and cooperation within study programs to share or effectively distribute the (SOA) knowledge, experience, and expertise
- Building trust in technology is important to effectively employ complex military systems in operations
- Respecting an ethical issue is important to shape the military culture and respect within broader social context.
- Understanding roles and functions of humans and technological components in future operations will help to select proper competency requirements for military personnel.