Alternatives

Options worth considering in your creation process!

1	**small vs big**	With the progress and miniaturisation in electronics, a number of capabilities that used to be the privileges of big systems are now available for small systems too. This reduction in size allows for better hiding on the battlefield, mobility, adaptability. Still, big systems might offer better survivability and selected functionalities.
2	**cheap vs expensive**	Cheap, expandable systems can change the way these elements are operated on the battlefield. Quantity might not be an issue and resilience of such systems might not be as critical as with expensive systems. Increased affordability might also offer ownership to non state actors or even individuals. Yet: Can cheap systems be as reliable as expensive ones?
3	**complex vs low-tech**	Low tech solutions can sometimes critically harm high tech complex systems, while those low tech devices may emerge overnight/surprisingly. For instance battle tank vs. IED (Improvised Explosive Device). How can those low tech threats be countered in a creative and rapid manner?
4	**slow vs fast**	An increase in speed in different systems make them less interceptable by current solutions. Speed can also be reflected sudden in changes of direction, and, complemented by the possibility to change velocity as desired, offers advantages in all operational domains. Speed is not only physical: information is also available faster and everywhere.
5	**individual vs multiple**	Technology allows now to coordinate a multitude of small elements, tangible or not, to act as a whole. This high level of redundancy has an impact on the doctrine as the elevated ratio (>1:1000) will require new CONOPS as well as systems.
6	**human operated vs autonomous**	WIll the human still be in the loop for decisions or will systems gain more and more in autonomy? Which functions can easily be autonomous? And which operational (e.g. interoperability) and ethical challenges will arise from those possibilities?
7	**trained vs augmented**	Up to which level is it worthwile to train certain soldier capabilities when you could get the same results by artificial enhancement via new technologies? How may human enhancement impact the nature of warfare? Which psychological repercussions does it have on the individual? Will new assymetries arise between the haves and the have nots? Will it be training vs testing new enhancement methods?
8	**human vs robot**	Should robots be used in missions too dangerous for humans? Can robots replace humans? Can robots do things relevant in modern and future warfare that humans cannot do (e.g. climbing overhead etc.)? Is the future human-robot teaming where both advantages combine?
9	**visible vs stealth**	As stealth is more and more difficult to achieve (not least vis-à-vis counter efforts in the field of detection/sensors), is it worthwhile to invest in stealth or would other functions bring more value? Which are the stealth possibilities which need to be considered? Are there new forms of stealth that can be adopted or adapted?
10	**monolithic vs modular**	Are there advantages with modular systems which can adapt to the mission? To which level can modularity be a solution to obsolesence and offer a more appropriate response to the rapidly evolving technology environment than do monolithic systems?
11	**ethics vs performance**	If some technologies are banned by Geneva conventions, but are used on the battlefield by the enemy, what should be the reaction? What if there is no protection solution other than a hitherto non-ethical solution? How to avoid an arms race that leads mankind into new fields of unethical warfare?
12	**active vs passive**	What will be the most effective approach in future scenarios: developing systems clever or strong enough to detect and destroy a threat (forward/aggressive defence), or a system capable of detecting and avoiding it (thanks to advanced mobility and acceleration etc.), or just a system able to protect its survival in passive shielding manner?
13	**improvements vs disruption**	New technologies can be used in two main different ways: they can either improve already existing systems or make a system obsolete by enabling different capabilities. How do you anticipate such changes? How do you evaluate the risks and its consequences?
14	**emitting vs silent**	If new systems use data and artificial intellienge, they need to communicate between each other to share experiences and exchange data. By doing so, they transmit and receive information, making them visible to their enemies. While this does not pose any critical problems in non conflict situations, this may dramatically change when presence detection and localisation of an asset is of high sensibility.

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