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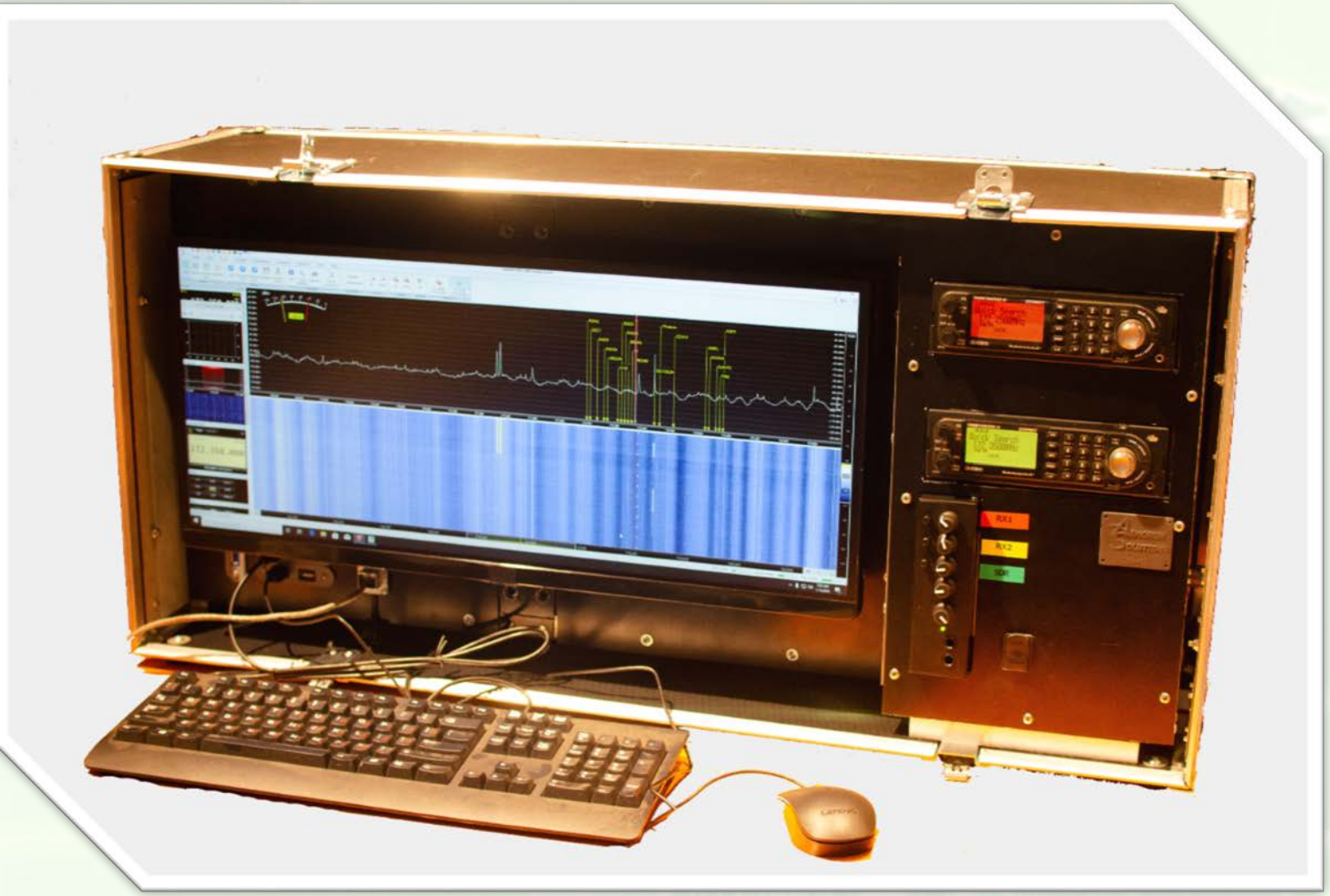
Modular SIGINT/COMINT
Radio Surveillance System " Tin-MD ".

The modular SIGINT/COMINT Radio Surveillance System (spectrum monitoring, detection, collection, direction finding) "Shadow-MD" have range from HF, UHF up to SHF .

The system detect and monitoring enemy digital and analog radio stations, collect demodulated signals, direction finding, create a log of events for further analysis. Also, have an ability to detect radars, EW, navigation systems and more.



Modular SIGINT/COMINT Radio Surveillance System " Tin-MD "in the form factor of an autonomous portable container.

The modular SIGINT/COMINT Radio Surveillance System "Tin-MD" is a further development of the radio surveillance complex "Tin" which was successfully used on the Eastern Front of the Ukrainian-Russian War in 2015-2016.

After consultations with Ukraine Army intelligence officers, guided by own combat experience, we concluded next:

SIGINT/COMINT and UAVs become one of the main sources of surveillance.

Ukraine Army dire need modern radio surveillance system.

Increasing the number of enemy digital radio stations reduces the effectiveness of tactical radio surveillance (LLVI) increases the role of the direction finding as a source of information about enemy maneuvers.

Most modern radio surveillance systems are built on the principle of achieving the highest technical parameters, so they are expensive and complicated, this complicates their widespread use for create networks, to cover large areas.

We need effective, inexpensive, mass solution with wide possibilities of integration with existing systems and flexible circuits engineering that allows constant upgrades.

The modular SIGINT/COMINT Radio Surveillance System "Tin-MD" has a flexible and variable modular architecture that allow to adapt each set to a specific task.

The basic set of panoramic SDR receiver can be supplemented with analog HF and VHF receivers, direction finder modules, antenna switches, amplifiers and antenna sets depending on the stationary or mobile usage scenario and the required frequency and bands.

The function of remote control of analog receivers can be adapted to the present customer receivers, which will significantly reduce the cost and speed up the integration of the system into the existing radio surveillance structures.

The software allows: collect the records of speech information, signais technical analysis, demodulation of some types of digital signals, and with additional converters and antenna devices - have an ability to detect radars, EW, navigation systems and more.

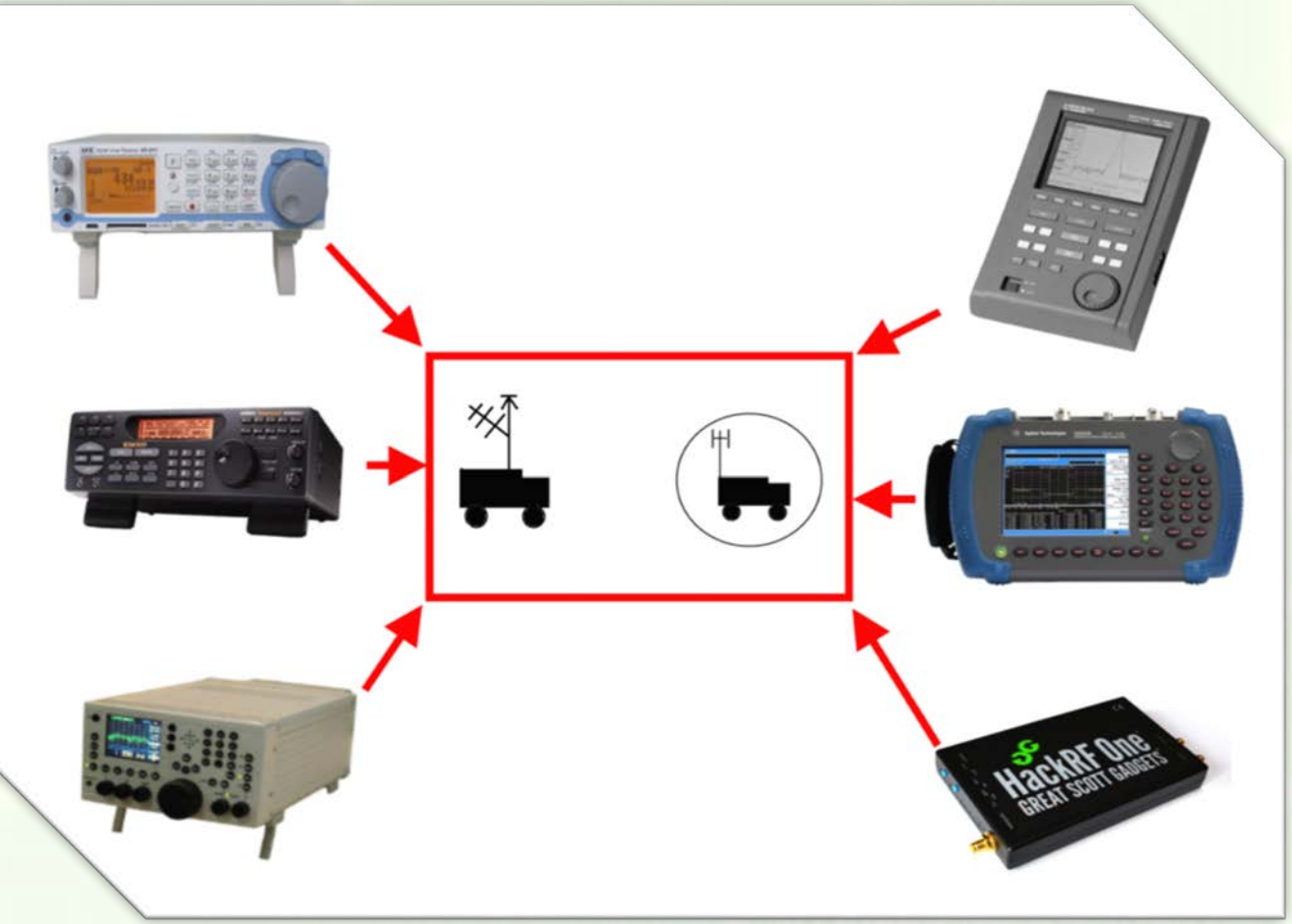
The airborne Radio Surveillance and Direction Finding system " Tiny-N", installed on the UAV (aircrafts, helicopters, aerostats), allows detect enemy EW complexes that jamming GPS or spoofing GPS signals and determine their location area.

During the development of the complex, we were guided by the "Strategy of the Third Offset" (Third Offset) principle. Which is used by US defence industry and provides maximum involvement of commercial scientific, technical and technological developments in the military indystry.

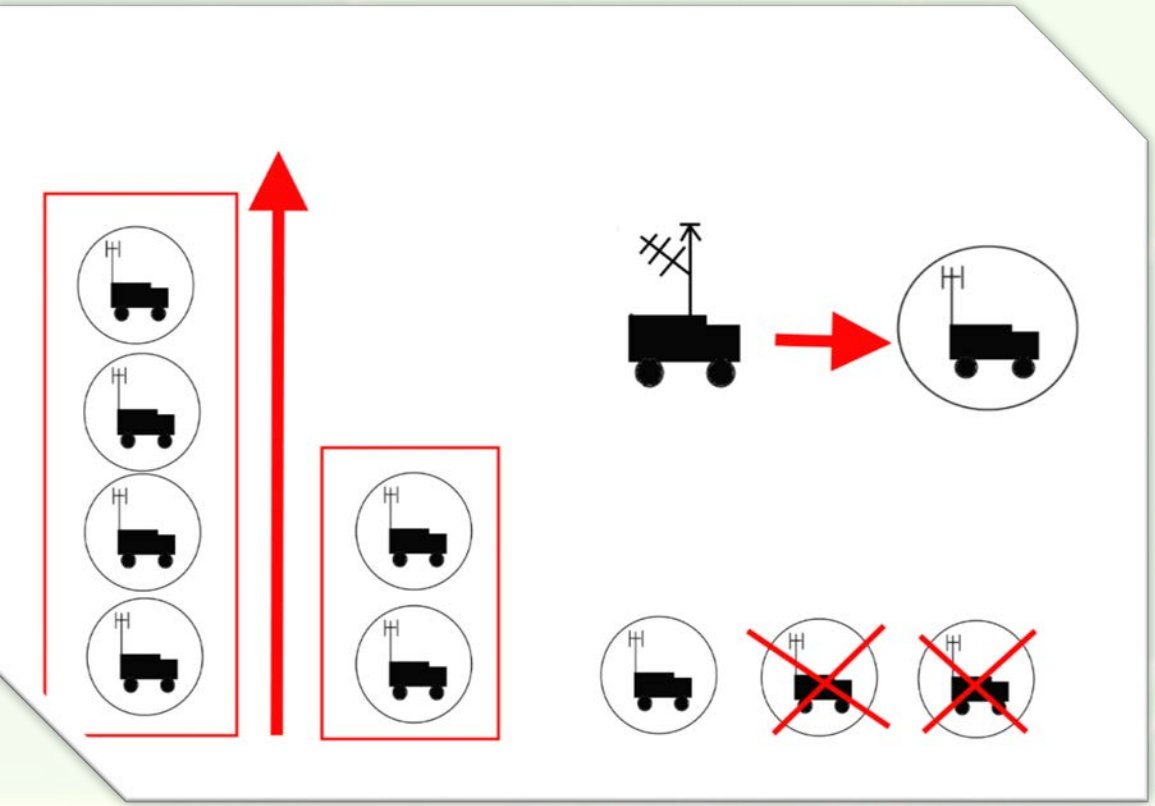
The obvious rationale for such a strategy is the fact that the "classic" defence industry in a "slow” third world war , consisting of a series of permanent network centric warfare and unconventional (hybrid) war regional conflicts, will not be able to maintain its technological and economic advantages and to meet the needs of the army in armaments neither qualitatively nor quantitatively.

Analysis of the development of military technology has shown that even third world countries can rapidly increase their military capabilities with commercially available technologies components and materials.

That is why we develop our systems based on commercially available components and technologies.

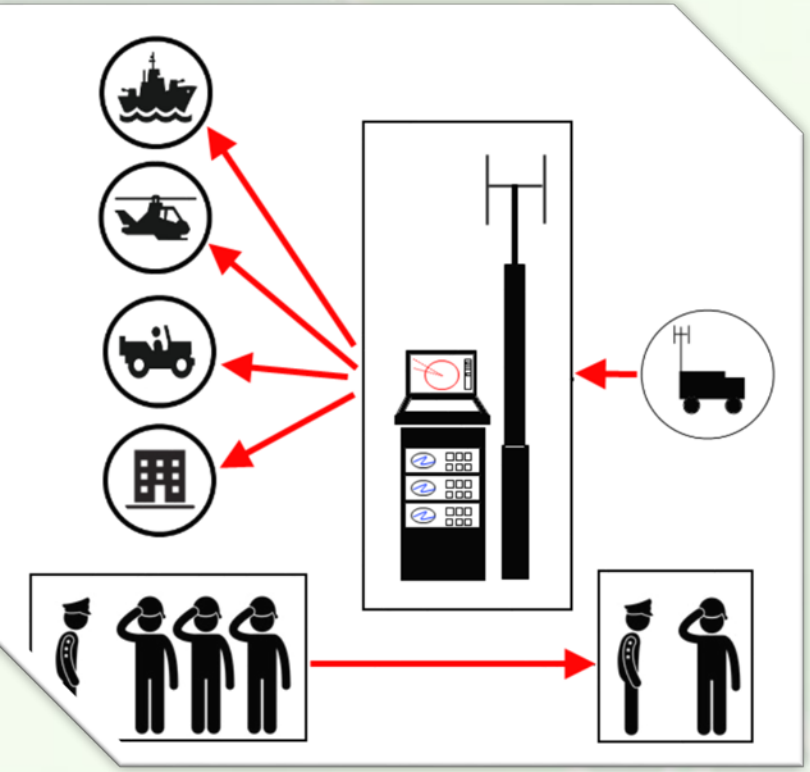


The flexibility of the complex architecture allows easy use of spectrum analyzers and scanning receivers from different manufacturers.



The architecture of the modular SIGINT/COMINT Radio Surveillance System "Tin-MD" based on the philosophy of network scaling in accordance with the tasks and the necessary coverage of full-featured surveillance modules. This architecture provides for multiple redundancy of major systems and provides for the preservation of the functionality of the whole network in its individual elements.

In practice, this means that the radio surveillance network will retain its functionality even if part of its elements are lost.



The ability to remotely control our radio surveillance network, allows to create networks of autonomous radio surveillance stations under a single control and configure the radio surveillance network according to the tactical situation and tasks. It allows reduces the number of qualified personnel for network maintenance.

Manufacturing the modular SIGINT/COMINT Radio Surveillance System "Tin-MD" in the autonomous portable container form factor, which can be easily installed in the open air or for installation in various types of manned and unmanned aerial vehicles.

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