

MILDEF CRETE

Corporate Newsletter



Introduction

By Wei, Liang, Vice President of R&D

2019 was a challenging year for MilDef Crete System Manufacturing Division. In addition to the existing small number of diversified product items, it also challenged a large number of special specifications orders. We bet on enthusiasm and faith in technology. The R & D process from production to manufacturing is constantly adjusted and readjusted in order to maintain the consistent high level of quality of MilDef Crete. Therefore, R & D department invested in human development and automated testing in the fourth quarter of 2019, and introduced equipment such as visual recognition systems □AOI□ can more accurately ensure the quality yield.

In addition to the research and development of new platforms, and the accelerated development of 10Gb LAN, 150W Vehicle adapter vehicles, I believe that new products will continue to be added to product projects, and 2020 will be more fruitful. The R & D Department will uphold Chairman Shen's strategy and goal, contribute our professional knowledge and uniqueness to products, and work together for a better future.

Introduction

MODEL : DR13

Modern Crew Station according to (NATO) Generic Vehicle Architecture (N)GVA)

New Feature Introduction – RAID

**2019 Global Partners Meeting @ UK
Flexbasis Expanded Productivity
Access control system building**

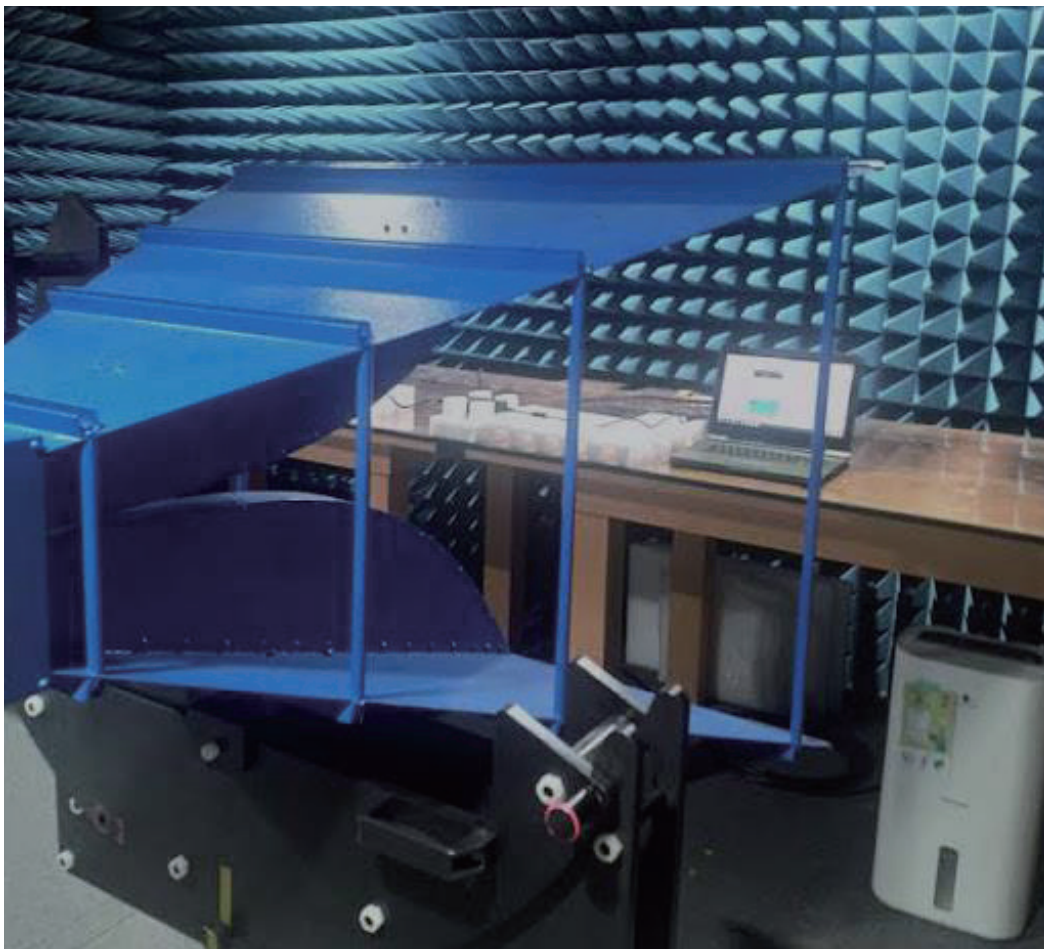
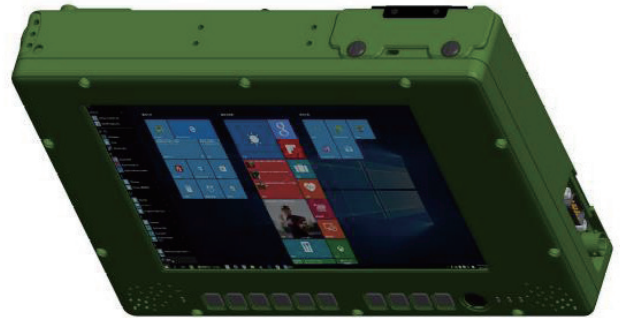
Employee Activities

- 2019 Year-end party
 - Compensation trip
 - Workplace image education and training
-

NEW Product Launch DR13

Q4 2019 we released a new product, DR13. This 8.4" tablet is the newest model of DR series, it comes with amazing performance, security, flexibility and durability. Experience the fast 7th generation Intel® Core™ i7 processor and various customization features to fit any workflow – all engineered into a thinner and more durable design.

There's no doubt The MilDef Crete rugged devices are the best. We have the best engineers dedicated to finding solutions to various problems. From sunlight readability, thermal heat dissipation, power management and mechanical design to unique technologies such as night vision and critical EMI Test & IP Test...etc, MilDef Crete has you covered.



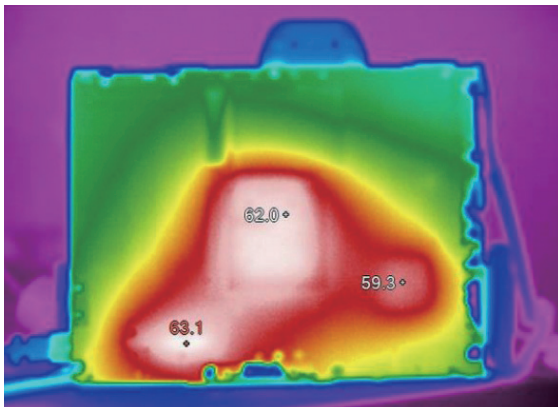
EMI Test

Heat Management

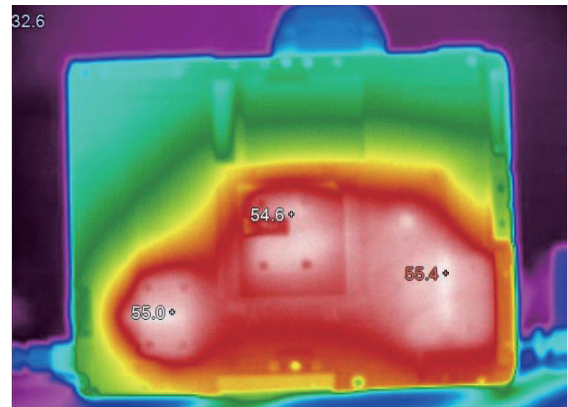
While pursuing better performance, heat management is always an important issue. Because poor heat management could lead the performance constantly drop to prevent overheating and the system could never stay with the best performance.

Fortunately, heat management is an advantage of MilDef Crete's product since our experience in developing fanless products.

With new HW/SW system and heat sink design, DR13 could deal with the heat issue much better than DR10 do. The core temperature decreases about 15° in Burn-in test. Through the infrared camera, we could see the heat is transferred to the case more evenly and the highest temperature showing on the case is also much lower.



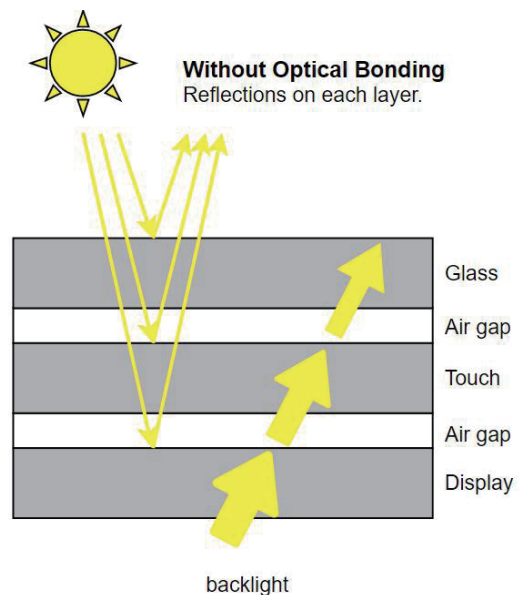
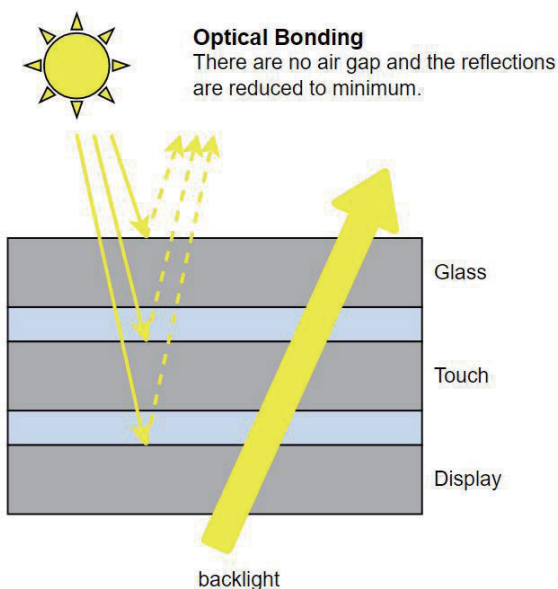
DR10



DR13

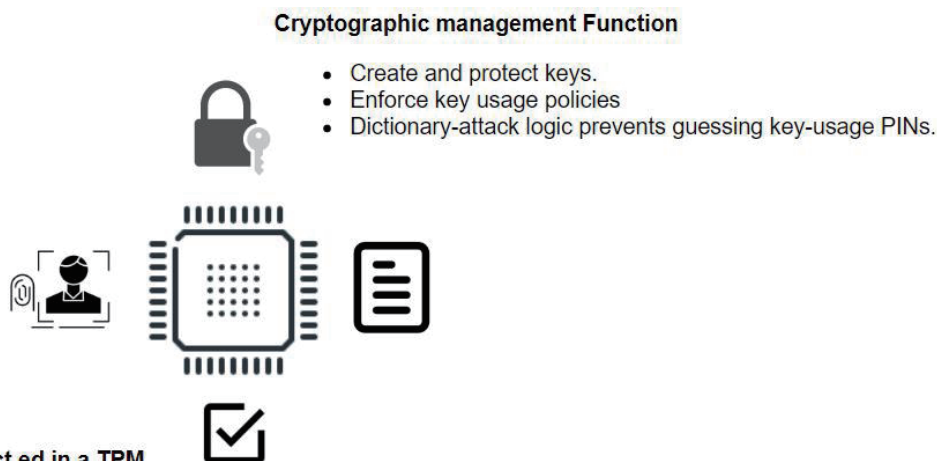
High Display Quality

Resolution of DR13 is 1024 x 768, which is the mainstream resolution of tablets and also makes a perfect match on DR's 8.4" LCD. Special optical bonding treatment makes the screen stronger, sunlight readable, anti-reflective and gives better contrast ratio.



Security

DR13 provide TPM2.0 as an advanced security option. This cryptographic technology enhances computer security and privacy. It protects your data by encryption and decryption, protecting authentication credentials and proving which software is running on a system.



Customize DR13 with TM team

DR13 reserve many signals for customized functions, such as NV, Fingerprint, crypto module, etc. You also could customize the specific BIOS for intended functions. Please inquire our TM team for further discussion.

Compare to DR10

Core components of DR13 are all upgraded (including Intel's Kabylake CPU, and DDR4 ram) so the performance will be enhanced significantly. Other renewed components include new optional modules (WiFi, GPS and TPM follow newer protocol; BVA which saves more power).

	DR10	DR13
Platform	Intel® Huron River	Intel® Kaby Lake U
Processor	Intel® i7-2610UE 1.5 GHz up to 2.4 GHz	Intel® i7-7600U 2.8 GHz up to 3.90 GHz
Memory	DDR3 1600 SO-DIMM x 1 Up to 8GB	DDR4 2133 SO-DIMM x 1 Up to 16GB
TPM Module	TPM 1.2	TPM 2.0
Battery Run Time	10.8V / 5800mAH Battery Run Time: 283.5min	10.8V / 5800mAH Battery Run Time: 427min
Burn-In core temperature	80.5°C	66.5°C
Performance (3D_MARK06)	3474	10175

Modern Crew Station according to (NATO) Generic Vehicle Architecture ((N)GVA)



By RODA Jürgen Metz

General

Open standards like NGVA or the British GVA are rising topics on and around the modern battlefield. Practically all new vehicle programs are affected. MIV (BOXER UK) and Challenger 2 LEP are actually the two most prominent examples that will soon enter the realization phase. In Germany there is a big digitization program called D-LBO which covers the German Land Forces. It is common sense that the approach to an open architecture will lead to significant improvements with regard to the whole life cycle of a given vehicle.

GVA or Def Stan 23-09 is an open standard designed to place information at the heart of a vehicular system with the objective of creating a single, standard digital electronic and electrical architecture for vehicles.

There are 9 principles around an open system architecture that are considered to be a must:

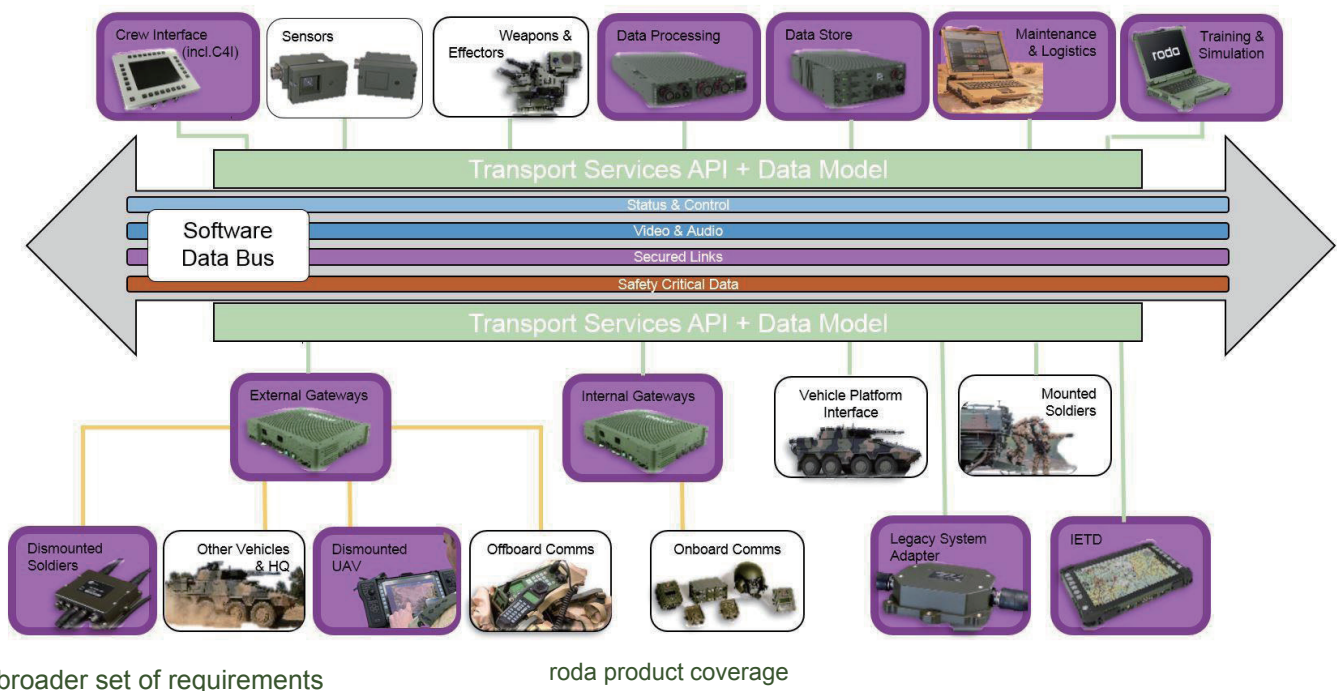
1. Take account of previous MoD investments
2. Be applicable to current and future systems
3. Use open, modular and scalable architectures and systems
4. Facilitate technology insertion (upgrade, update, replace, repair, remove and addition)
5. Not needlessly implement in hardware any functionality that can be implemented in Software
6. Take a “whole platform” systems view, through life (including costs)
7. Be done in conjunction with industry and all relevant MoD stakeholders
8. Be MoD owned and maintained
9. Specify the minimum necessary to achieve MoDs desired benefits avoiding unnecessary constraint in plementation.

Advantages of (N)GVA include:

- Vehicle availability and reliability will be improved, instead of wasteful time-based maintenance intervals, conditions-based maintenance will be possible
- Availability based contracts will be possible as vehicle usage data will be available on which to negotiate against
- Vehicle running costs can be reduced because condition-based information will again be available
- Processing and storage can be shared across multiple systems
- Vehicle capability can be increased as sensors could be shared and intelligence automatically gathered and Presented
- Costs will be reduced by avoiding supplier lock-in, increasing competition and lowering the barriers to entry for smaller manufactures

- Weight and power requirements will be reduced as equipment specific cabling will be eliminated
- Reduced training
- Reduced space for “systems equipment”
- Vehicles can be quickly re-configured for different roles
- New sensors can be quickly fitted to vehicles to counter developing threats, this can be done quickly, in essence, plug and play for sensors

The other NATO members go one step further to the NGVA standard where GVA is the basis but meets a



GVA or NGVA affects to the whole vehicle with nearly all of the components and needs to be seen always on complete system level.

Software

Apart from the hardware itself there is always a need for (N)GVA compliant software because – according to the standard – every functionality that can be realized via software has to be done by software. Other than that there is a so called Middleware (DDS) which is amongst others responsible for checking the priority of commands and information's to be shown on various displays. In case of upgrading older vehicles, translating between new

GVA compliant components and legacy components will be achieved by using specific software based adapters.

Video over Ethernet

The decisive driver for the performance of smart displays is the demand for “Video over Ethernet”. With this feature the camera would not be directly connected to one specific display, but all of the active cameras are streamed to the network, enabling all of the display devices to have access to all video streams. To achieve this, high performance processors and efficient image processing are necessary. For the network itself, data rates of 1 Gbit/s are not sufficient for the usage of multiple cameras. roda is already on future enhancement potential by using high performance processors guaranteeing the necessary bandwidth by using 10 Gbit/s Ethernet. Therefore, future demands for enhancement should be accommodated without comprehensive changes in the design of the hardware. Furthermore there are strict requirements concerning latencies, which have to be complied with, especially when used as a driver viewing system or a weapon sight. On the basis of these framework conditions, it would not be possible to compress video streams, whilst using several cameras, without either taking the significant necessary computing power to its limits or exceeding the required latency window.

Roda portfolio regarding (N)GVA

roda is a reliable supplier of the following GVA compliant hardware components:

- “Smart” or “dumb” displays
- Switches
- Vehicle computers
- Power supplies

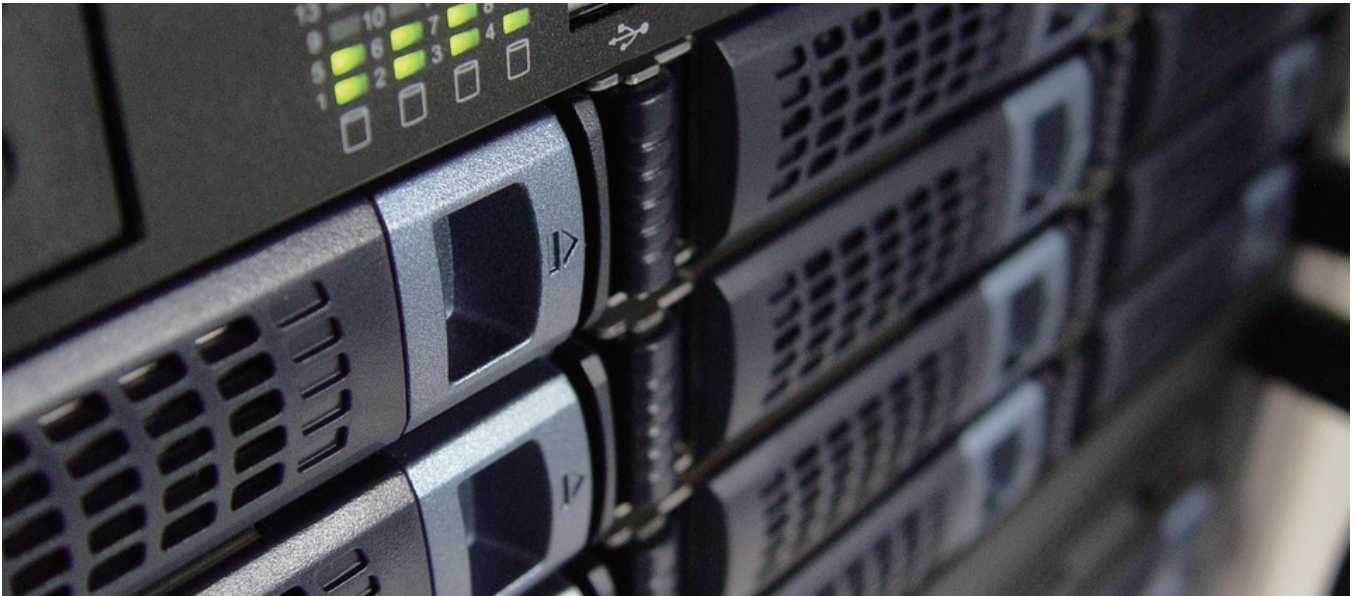
roda common Crew Station (roCCS)

roCCS is a top-notch product using the latest hardware components you can rely on in every thinkable scenario. It is fully compliant to (N)GVA and will perform as you would expect even in the harshest conditions. One of the key features is the modularity behind the hardware concept. roCCS can be seen as whole product family which covers display sizes for 10” and 12” by only by changing the front panel and leaving all other components untouched. Even the computing hardware itself can be tailored to the specific needs of the costumer to cover the range from a “smart” display with capable processors and GPUs, down to a simple “dumb” display. Special requirements that aren’t covered by any standard can also be realized, which is a unique capability of roda.

Why to buy a roCCS family member?

- Performance you can count on, tailored to yours needs
- High modularity
- Flexible interface concept
- 3+5 years full support (more is possible)
- Easy to maintain logistics chain
- Form-Fit-Function for the next generations
- Environmental: Known and proven roda reliability without compromises .

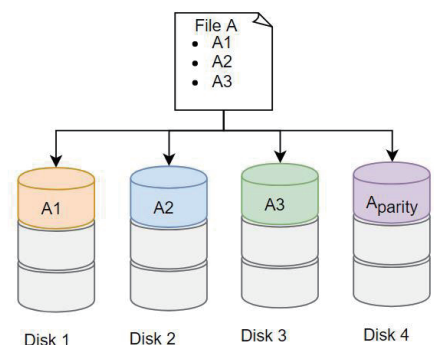
Roda continuous to pursue consistent alignment to the request of the users and, therefore, ensures the ability to respond to future challenges.



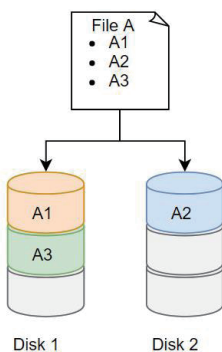
New Feature Introduction – RAID

RAID, Redundant Array of Independent Disks, has been a basic but important feature for server and workstation. RAID is a technology allowing multiple SSD/HDD cooperate to improve performance or to reduce the risk of losing data. There are several RAID levels, RAID 0, 1, 5, 6 and nested RAID: RAID 10, RAID 01.

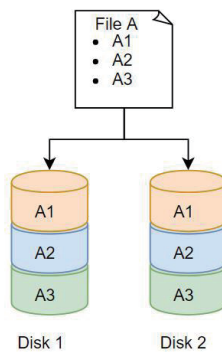
Through Intel's RST(Rapid Storage Technology), MilDef Create's developing products RW14 could provide the software RAID solution including RAID 0(Stripping), RAID1(Mirroring), RAID5(Stripping with parity),RAID10(Stripping and mirroring).



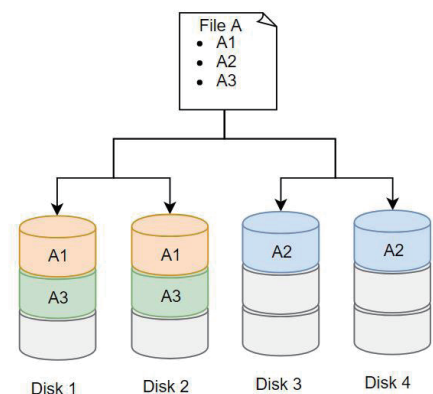
RAID 5
(Striping with parity)



RAID 0(Striping)

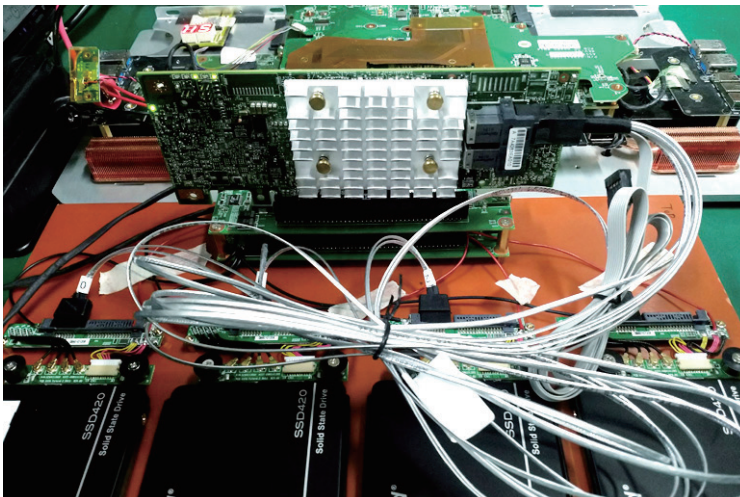
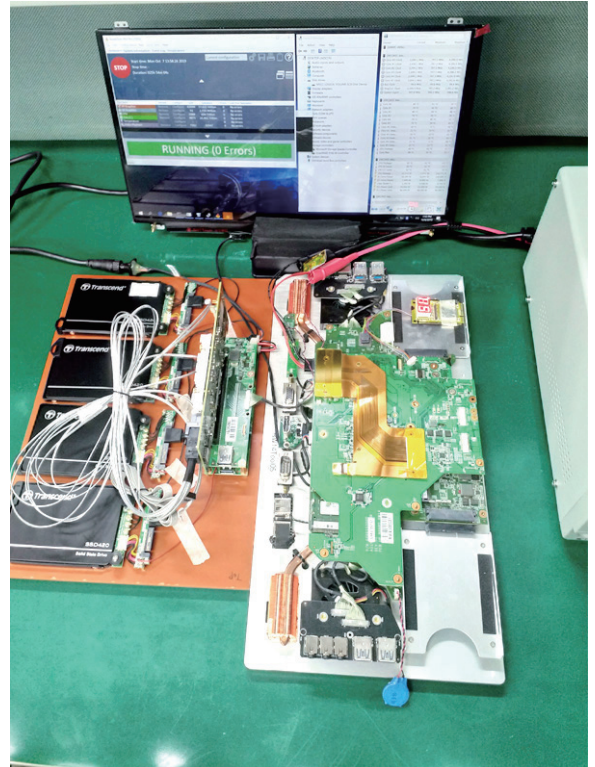
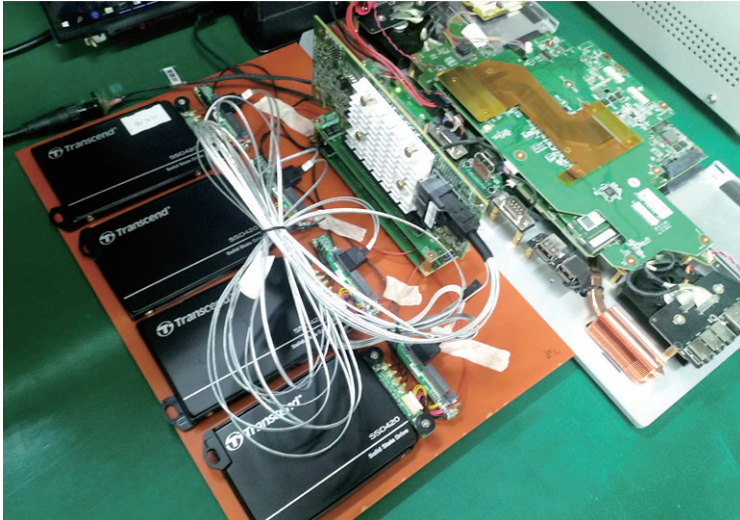


RAID 1(Mirroring)



RAID 10
(Striping and mirroring)

Hardware RAID is also tested and we plan to provide it as an option of 17" work station RB14. With an add on RAID controller card the CPU loading would be lower so the performance could be improved.



RAID controller & RW/RB14 MB



2019 Global Partners Meeting @ UK

by Carol Hu

MilDef Crete's products are spread all over the world. In the customer-oriented concept, a global partner meeting is held every year to understand the needs of end customers in order to provide higher quality services. This year, it is scheduled to be held in London, England, in September 2019. We want to share and exchange relevant opinions about products and markets with your partners!

This year's MilDef Crete is led by Tony with strong sales team members Kevin, Kidd and Carol, Nelson who is familiar with international marketing and management, and Willie and Roger who are from R&D. In addition to partner meeting, visiting the biannual DSEI (Defence and Security Equipment International) arms exhibition is also arranged. As partners from all over the world arrive at the small bar next to the Thames in London, the 2019 Global Dealer Conference is getting started!

Thanks to the host MilDef Ltd Duncan and his partners for meticulously arranging accommodation meals and special meeting places. The hotel is located at the TOWER HOTEL next to London's landmark Tower Bridge. The meeting place is the Tower of London, which had to be booked a year ago. The Tower is located in the Tower of London, which has played an important role in British history. It is a castle belonging to the British royal family. Before entering the meeting, it must be confirmed by the Royal Guard security check, which makes people a little nervous but excited!





In addition to publishing new products at the conference, we also insisted on the attitude of continuous improvement and development, provided the corresponding software and hardware materials required by customers to meet the needs, and further provided innovative concepts in the options of future products. Partners during the conference Responding enthusiastically and giving good advice and guidance will help improve the product specifications and also provide great help for market sales!



Speaking of visiting the DSEI Arms Show, there are representatives of arms companies and military delegations from all over the world participating. It is a good opportunity for the original MilDef Crete to understand product applications and observe trends. We are honored to participate in this event. Of course, the MilDef Group also set up a display area to let more people understand MilDef Crete's products and highly customized flexibility. In fact, there was an indescribable impression in the exhibition area. The entire series of sophisticated products were lined up spectacularly. With the active promotion of global partners, no reasons for customers not to choose MilDef!



The entire venue occupies a very large area: from a wide range of components such as warships, helicopters, tanks, hummers, guns, ammunition, etc. to harbors, to defense weapons-related products. From time to time during the visit, I saw that MilDef Crete's products are used in different military equipment of various countries and have excellent functions. In addition to being excited, I have more pride! These are all relying on the efforts of the internal team and global partners ~ On the same day, MilDef Group invited VIPs from all walks of life to participate in the dinner at the Tower Bridge. Yes! the dinner was on the Tower Bridge, which is one of London's most famous landmarks and has a history of 120 years. In 2014, the old bridge was replaced with a new one, and the channel at the top of the tower was replaced with a glass walkway. People can stroll on the bridge and overlook the Thames. This time, standing on the tower bridge overlooking the Thames at night and seeing the surrounding buildings are completely different. The visual feeling and condescending feeling also make the feet tickle. I believe that all the guests here will leave a deep and beautiful memory.



Origin is immortal! Thank you dear colleagues for making this trip to the UK rich and fruitful, and thanking our global partners for always working with us to make me more convinced that there is a bigger blue ocean ahead of us. Looking forward to the 2020 Global Partner Conference, we will see you in Taipei in 2020 ~



Postscript: There was a weekend holiday during this meeting. Tony took us together to take the Eurostar High Speed Rail from England to Amsterdam. Of course, when you arrive in Amsterdam, you must integrate the local characteristics: you rent a bicycle and go around a large circle, facing the breeze along the way to admire the picturesque scenery in the Netherlands, and you have also been riding 70 kilometers all day. The classroom plays a role, and all of MilDef Crete's employees are to be master of both the pen and the sword. It really has a strong physique to make a better contribution! Welcome everyone to join MilDef Crete spinning bike Club!



Flexbasis Expanded Productivity

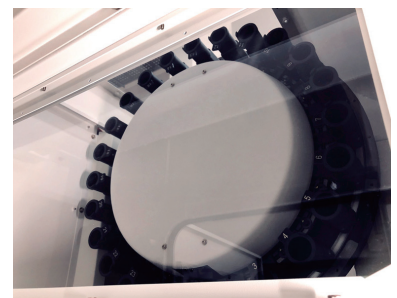
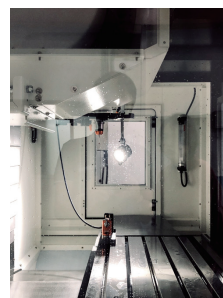
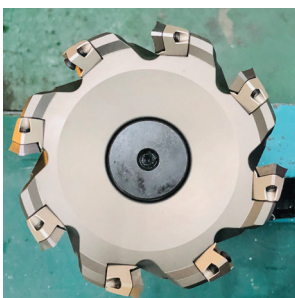
By Roger Lu

We are pursuing to meet the increasing needs of customers; and more flexible and flexible production process operations. In late October 2019, four new Computer Numerical Control machines were added and successfully joined the original in early November There are eight production lines.



This new force has the same specifications as the original machine. With the original machine with extremely high capacity utilization, the productivity will be perfect! It is expected to bring about a 30% increase in turnover; and 12x24* note a more flexible and flexible production process.

* 12x24 (12 machines x 24-hour production)





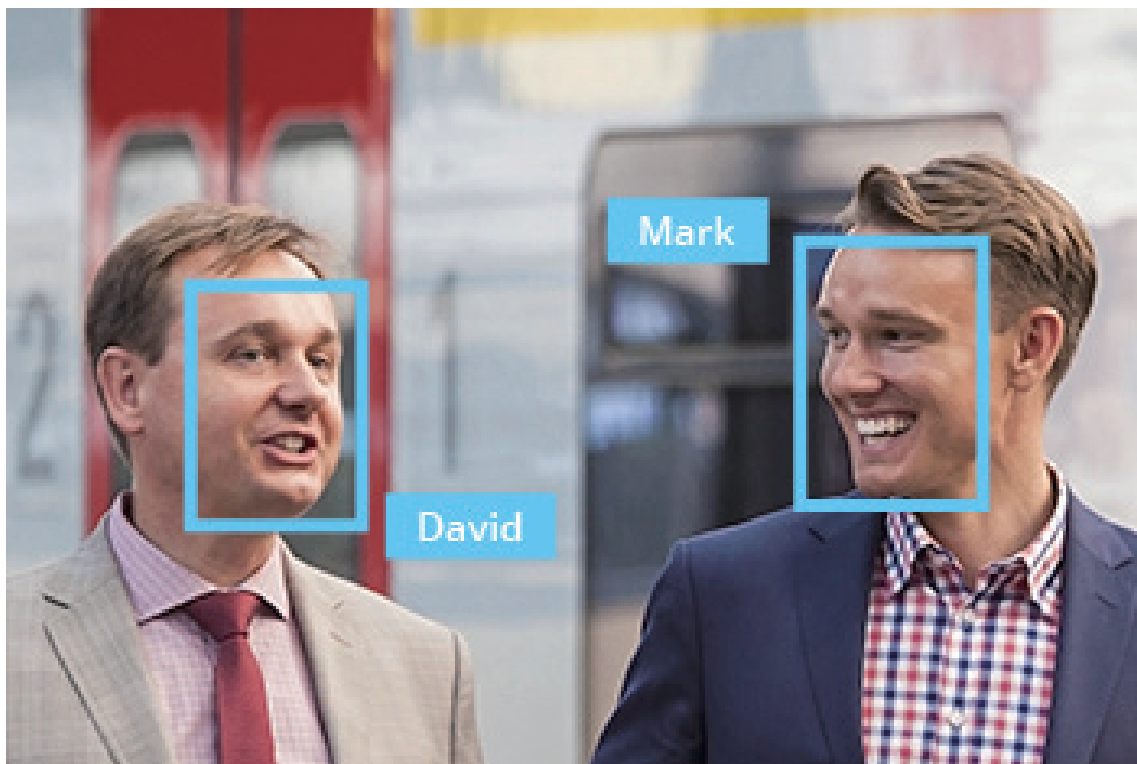
Access control system building

By Vincent Chien

In response to the requirements of workplace safety management and management, and in line with the company's layout for future operations, it will be fully automated. In the third quarter of 2019, planning and construction of a "face recognition access system" began. This system uses off-point pupil extension to facial features for recognition calculation. It does not need to watch the terminal to recognize the unlocking successfully. The time is less than one second, it is reliable and not prone to errors, and it can be used for normal recognition even when wearing glasses.

Abandon the inconvenience of wearing a proximity card, and use biometric as the final solution.

In the early stage of planning, it was introduced in advance by access control management, and it was passed in the factory area. Regarding the guests and visitors, the registration and exchange of cards are used to pass by proximity cards to achieve regulatory purposes. The system's personal data back-end server is centrally stored and managed to store and access information in real time. In the future, full automatic attendance software and hardware will be introduced to replace the old human attendance system of the Human Resources Department in order to achieve employees' online application for related attendance. Assignments and supervisors sign off immediately. It saves paper, manpower, time and waste of traditional punch-in and reaches the fully automated standard operation.



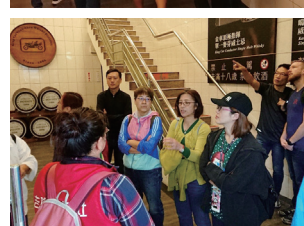
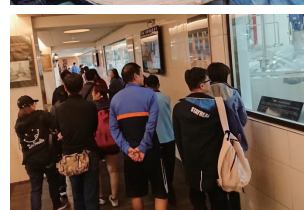
2019 Year-end party

We held the 2019 year-end party on 2020/1/10. The dinner was held at Suzhou Restaurant, with 34 tables. Last year's contractor made the whole dinner party very lively and warm, so this year we work together again. After the speech by Chairman Shen and Vice President Hu of the Domestic Business Department, the prelude was kicked off. The rare manufacturers and my colleagues, we chatted happily, toasted with sips, and moods went up and down during the lottery and lottery, while not forgetting to enjoy the food; the whole meal will be given a bonus of 50,000 yuan by Mr. Shen on behalf of the board Yuanshi reached its climax. Congratulations to all the award-winning colleagues. Thank you for your support and contributions in 2019.

Compensation trip

In October 2019, the MilDef Crete Welfare Committee held a one-day employee tour of Yilan to visit the light of Taiwan's whiskey: Jinche Kamaran Distillery, located in Yuanshan Township, Yilan. It was opened in 2008. The clear waters of the Central Mountains and the Snow Mountain Range, under the action of Pacific Ocean water and the wind of the Snow Mountain, bred the golden car whisky with a mellow and charming flavor, and glorified Taiwan under the brand "KAVALAN". Colleagues are guided by a professional narrator in the castle to visit the manufacturing process of whiskey and taste its mellow flavor. Lunch is arranged at Evergreen Phoenix Hotel Guangui Buffet. After that, I went to Sanfu Leisure Farm, DIY frogs, ecological tour ... and enjoyed a good time of relaxation and relaxation. The one-day trip





ended happily after dinner without a menu, and I look forward to a trip to Japan in 2020.

Workplace image education and training

Make-up is the basic etiquette of “politeness” and “professionalism” in today’s workplace. It is also a beautiful new movement actively promoted by many companies. Female employees understand the importance of self-image management. Being able to do simple and appropriate makeup at work is not only a respect for the workplace, but also adds color to the workplace, and can also show confidence in the work; the Welfare Committee specially invited LG Cosmetics Image Promotion Department is free to teach makeup etiquette courses for female employees of MilDef Crete. On the one hand, it advocates the importance of makeup etiquette, on the other hand, it adds more diversified curriculum content to MilDef Crete’s employee education and training, and dresses appropriately. The workplace make-up makes everyone more divided in the professional image and leads the company to improve the overall image.





COMPANY INTRODUCTION

MilDef Crete was founded at 1990, we fulfill ISO 9001 and ISO14001. MilDef Crete focus on rugged computer market. We have complete product line including rugged laptop, tablet, mobile device and these products could be use in fields including military, public safety, public utility, on-site service, petroleum and natural gas, telecommunications, transportation, manufacturing, mobile commerce, etc.

MilDef Crete's products sold to the whole world by the brand MilDef. We have transnational team and several sites at Euro, North America and China. We provide our customer quicker and better service by co-work with our distributors and dealers. We keep focus on innovation and product development to provide best products for professional usage. We also have best R&D team for any customized demand. Our products pass various standards including MIL-STD-810 and International Protection Marking (IP54, IP65, IP67) and could fulfill special request such like MIL-STD-461, ANSI or ATEX directive.

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